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OF THE
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OF THE

MEDICAL SCIENCES.

VOL. XVII.

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PHILADELPHIA:
CAREY, LEA & BLANCHARD.

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TO READERS AND CORRESPONDENTS.

Communications have been received from Professor SEWALL, Drs. PENNOCK, METTAUER, A. SMITH, and LEE.

This and the preceding number of this Journal have been delayed a few days beyond the stated period of publication, in consequence of derangements in the Printing Office, resulting from a severe and protracted indisposition of Mr. Skerrett, who has charge of the typographical department of this work. Arrangements are in progress which it is believed will guard against this cause of delay in future, and we hope hereafter that the Journal will appear with the same punctuality that formerly characterized it.

The North American Archives of Medical and Surgical Science, and the Medical Magazine, have been discontinued, and Professor Geddings, the editor of the former, and Professor Bartlett, one of the editors of the latter, will unite with us in support of this Journal. We congratulate our subscribers on this accession to our list of collaborators, and assure them that every exertion will continue to be made on our part to merit the unprecedented support which this Journal has received, and to render it what we are ambitious it should be—*The American Journal*.

The following works have been received:—

The Transactions of the Provincial Medical and Surgical Association. Vol. III. Sherwood, Gilbert, and Piper. (From the publishers.)

The Cyclopædia of Anatomy and Physiology. Edited by ROBERT B. TODD, M. B. Lecturer on Anatomy and Physiology at the Westminster School of Medicine, &c. &c. Part I. Sherwood, Gilbert, and Piper. London, 1835. (From the publishers.)

Manual of Phrenology; being an Analytical Summary of the System of Dr. Gall on the Faculties of Man and the Functions of the Brain. Translated from the fourth French edition. Philadelphia, Carey, Lea & Blanchard, 1835. (From the publishers.)

A Treatise on Pulmonary Consumption; comprehending an Inquiry into the Causes, Nature, Prevention, and Treatment of Tuberculous and Scrofulous Diseases in general. By JAMES CLARK, M. D., F. R. S. &c. &c. London, 1835. (From the author.)

Temperance Prize Essays. By Drs. MUSSEY and LINDSLY. (From Dr. Lindsly.)

Essays and Lectures on Medical Subjects. By JOHN P. HARRISON, M. D. Professor of Materia Medica in the Cincinnati College. Philadelphia, 1835. (From the author.)

Mémoire sur le Cholera-morbus, Complicqué d'une épidémie, de fièvre jaune, qui a régné simultanément a la Nouvelle-Orleans en 1832. Par MICHEL HALPHEN, M. D. Paris, 1833.*

Journal Hebdomadaire des Progres des Sciences et Institutions Médicales, April, May, June, and July, 1835. (In exchange.)

Revue Médicale Française et étrangère, April, May, and June, 1835. (In exchange.)

* This work, though sent to us in June last, did not come to hand until the latter end of October; of course too late to be noticed in this number.

Journal des Connaissances Médico-Chirurg. May and June, 1835. (In exchange.)

Gazette Médicale, April, May, and June, 1835. (In exchange.)

Bulletin Général de Thérapeutique Médicale et Chirurgicale, April, May, June, and July, 1835. (In exchange.)

Journal des Connaissances Médicales Pratiques et de Pharmacologie, March and April, 1835. (In exchange.)

Journal de Pharmacie, May, June, and July, 1835. (In exchange.)

Journal de Médecine et de Chirurgie Pratiques, May, June, and July, 1835. (In exchange.)

Mémorial Encyclopédique et Progressif des Connaissances Humaines, April, May, and June, 1835. (In exchange.)

La Lancette Française, April, May, June, and July, 1835. (In exchange.)

Magazin der Ausländischen Literatur der gesammten Heilkunde, &c. herausgegeben von Drs. Genson and Julius; January to December, inclusive, 1834; March and April, 1835. (In exchange.)

Dr. Ryan's London Medical and Surgical Journal, June, 1835. (In exchange.)

The London Medical and Surgical Journal, June and July, 1835. (In exchange.)

The Edinburgh Medical and Surgical Journal, July, 1835. (In exchange.)

The Medico-Chirurgical Review, July, 1835. (In exchange.)

The London Medical Gazette, June, 1835. (In exchange.)

North American Archives of Med. and Surg. Science, August, September, and October, 1835. (In exchange.)

The Boston Medical and Surgical Journal, Vol. XII. No. 26, to Vol. XIII. No. 11. (In exchange.)

The United States Medical and Surgical Journal, July, August and September, 1835. (In exchange.)

The Western Journal of the Medical and Physical Sciences, July, 1835. (In exchange.)

The Transylvania Journal of Medicine and the Associate Sciences, October, 1835. (In exchange.)

Authors of new medical books, desirous of having them reviewed or noticed in this Journal at the earliest opportunity, are invited to transmit to the *Editor* a copy as soon after publication as convenient, when they will receive prompt attention. Under ordinary circumstances, very considerable delay is caused by the circuitous routes through which they are received.

Papers intended for publication, should be sent, *free of expense*, as early after the appearance of the Journal as possible, in order to be in time for the ensuing number. Such communications should be addressed to "CAREY, LEA & BLANCHARD, Philadelphia, for the *Editor of the American Journal of the Medical Sciences.*"

All letters on the *business* of the Journal to be addressed exclusively to the publishers.

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XXII. Lehrbuch der Geburtskunde. Ein Leitfadn bei Akademischen Vorlesungen und bei dene studium des Faches. Von Dr. Dietr. Wilk. Keirir. Busch, Königl. Preuss. Medicinalrathe, ord. Professor der Medicin an der Königl. Friedrich-Wilhelms-Universität zu Berlin, Director des Klinischen Instituts für Geburtshülfe, Mehrerer gelehrten Gesellschaften Mitglieder. Zweite Auflage. Marburg, 1833. pp. 784.	
Manual of Obstetrics. A Guide to Academical Lectures, and to the Study of the Subject. By Dietr. Wilk. Keirir. Busch, &c. &c. Professor of Medicine to the Royal Frederick William University at Berlin, &c. &c. Second edition. Marburg, 1833. pp. 784	161
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CASE I. *Tuberculous Meningitis—Tubercles in Lungs and Bronchial Glands, &c.*—Charles —, a negro, æt. 22, seaman, unmarried, entered July 31st, 1834. Intelligence very obtuse at admission, but could still give some account of his disease. Intense cephalalgia for the last week while on board of a vessel; restlessness; heat of skin; delirium; was purged with salts, but under no regular medical treatment.

After his admission, insomnia; cephalalgia increased; eyes injected; expression of wildness; heat of scalp. Delirium so violent as to require him to be removed to the cells on the 7th of August. On the evening of the 7th answers still obtained; intelligence very dull; rigidity slight in both arms, nearly equal; pupils dilated, especially the left; face not distorted.

Treatment.—Copious local depletion, by cups to the head; blister over the scalp three days before death; solution of tartarized antimony. Death 9th, at 11, A. M.

Autopsy, August 10th, eighteen hours after death, at 5, A. M.—*Exterior.* Moderate emaciation; rigidity of extremities; cuticle removed by a blister on back of neck.

Head.—Blood rather abundant on the exterior of the dura mater; longitudinal sinus filled with a firm fibrinous coagulum; liquid blood in the sinus of the base; arachnoid moist; pia mater much and equally injected in the small vessels, it is easily detached from the convolutions, and is neither thickened nor granulated. *Base of brain.*—Left fissure of Sylvius filled with a band of firm semi-transparent cream-coloured substance, in which are deposited a multitude of transparent granulations, the largest of the size of a small pea. The band surrounds the vessels, and is detached with the pia mater; it extends through the fissure of Sylvius, and terminates about the level of the corpus callosum. The right fissure is filled with a substance precisely similar in every respect to that described, but a little less abundant. The pons varolii, optic nerves, and the inferior surface of the anterior and middle lobes of the cerebrum and of the cerebellum, are covered by numerous granulations, deposited in a thin layer of the yellow substance. The cerebral substance beneath the granulations in the fissures and on the pons, is softened in the depth of half a line to a line. Cortical substance of cerebrum rosy; medullary more abundantly dotted with minute points than usual. Ventricles containing three ounces of milky serosity, central parts pulpy, not diffuent, of milky whiteness. Optic thalami soft on the surface; corpora striata firm, moderately injected. Plexus choroides moderately injected.

Medulla spinalis.—Arachnoid in superior third, dry, a little rough to the touch, without distinct granulations; the inferior portion retains its shining moist appearance. Consistence good; injection moderate.

Thorax.—Left lung adherent at summit, where there is a mass of crude yellow tubercles, of the size of a millet seed to that of a large pea, surrounded by gray granulations deposited in the substance of the lung, which is permeable to the air, and not much engorged with blood. Small tubercles are scattered throughout the lobes. A bronchial gland in the lower lobe of the size of an almond is converted into tuberculous matter, in part caseous and in part soft. Numerous granulations beneath the pleura, covering the whole surface of this lung, none beneath the costal pleura. Right lung not adherent; tissue permeable to the air; granulations numerous beneath the pleura and small tubercles, disseminated through the lung. Bronchi pale. Bronchial glands more or less completely replaced by tuberculous matter. *Heart* of moderate size, firm; valves natural; large coagulum in the left ventricle; a drachm of serosity in the lateral ventricles.

Abdomen.—*Stomach*, contents not noted; mucous membrane of

natural thickness and consistence; mammillated along the small curvature; no bright injection.

Small intestine contains a little yellow liquid. Mucous coat pale, of good consistence. Glands of Peyer pale, and slightly elevated; one near the valve contains a little tuberculous matter. *Mesenteric glands* small, not tuberculous.

Large intestine containing a thin liquid. Mucous coat of a pale slate colour in the cæcum, and firm. It is pale, but rather soft; in the rest of the colon very thin, and spotted with little dark circles, an eighth to a quarter of an inch in diameter, without alteration in thickness.

Liver rather large, dark red, firm, bile abundant, some tuberculous granulations in the peritoneum covering it. *Spleen* firm, but full of gray granulations. *Kidneys* firm.

CASE II. *Tuberculous Meningitis—Effusion of Concrete Yellow Substance at the Base of the Brain—Softening around the Tuberculous Matter—Little Serosity in Ventricles—Numerous Gray Granulations in the Lungs—Ulcerations of the Glands of Peyer.*—Asa —, æt. 24, cabinet maker, born at Philadelphia, entered September 6th, 1854. Was always of feeble constitution; when two years old, had caries of the bones of the face, with discharge of matter from the abscess for some months.* For the last two years is more dull than formerly; is subject to head-ache, at times severe, but has rarely quitted work. He has coughed a little at times, though scarcely so much as to attract the notice of his friends. The dullness and cephalalgia increased within the last six weeks; and three weeks ago, while at work he suddenly lost the use of his speech and of the right arm; he walked home, took some purgative medicine, and the partial paralysis ceased in a day or two afterwards. The cephalalgia continued with constipation, but no vomiting; intelligence still dull; he applied for medical aid at the dispensary, where the only symptom noticed was constipation. Two days before his admission his speech was again impeded, and there was a sudden partial loss of motion in the right arm and leg, with retraction of the mouth towards that side; delirium; he was still able to walk. It was not known whether any rigidity or alteration of the sensibility had existed. He was bled twice, and purged before his admission.

Present state.—September 6th. Hair black; eyes dark; skin brownish. Emaciation advanced. Height, five feet ten inches. Decubitus

* His father died of consumption; he has one brother now dying of this disease. A mother and sister are in good health. Several paternal relatives have died of chronic diseases of the chest.

indifferent; intelligence very obtuse; answers scarcely intelligible. incoherent; complexion dull; expression stupid; nostrils compressed; right corner of the mouth drawn backwards, especially while speaking; tongue a little turned to the right, very red and dry, with elevated papillæ. Right arm in motion, catching at the bed-clothes and in the air, it is evidently rigid at the elbow and wrist. Right leg a little flexed, and slightly rigid; no rigidity in left arm or leg; sensibility in all the limbs seems natural; motion slow and difficult, both in the right arm and leg; speech nearly inarticulate, deglutition easy; subsultus tendinum of both wrists; anorexia; no vomiting; thirst; constipation; abdomen distended moderately; skin very hot and dry; no cough; percussion sonorous in both sides of the chest; respiration 20 in the minute, pure and expansive; pulse regular, soft, 80. Cups to back of neck; (to take $\frac{1}{3}$ x. of blood.) Mustard pediluvia.

7th. Delirium all night; same expression of countenance; same rigidity of the right side; right pupil rather contracted; speech more distinct; hearing and sight good; no vomiting nor dejections; pulse 80 to 84 during the whole day, full, and rather resisting. Neutral mixture. Saline cathartic.

8th. Restless at night, but made no effort to rise; no answers when questions are addressed to him; mouth now drawn to the left side; pupils dilated, left larger than right, neither contractile; rigidity not evident in the right side, which is now completely paralyzed; floccitation confined to the left hand; doubtful rigidity of the left elbow; sensibility very obtuse on the right side, nearly natural on the left. Swallows every thing offered, but shows no desire either for food or drink; speech inarticulate; pulse 120, much weaker; respiration 20, high. Blister over the whole scalp. Profuse sweats during the night; pulse weaker and more frequent; convulsions, followed by death in the morning of the 9th.

Autopsy on the 9th.—*Exterior.* No rigidity; body still warm; little emaciation; no œdema.

Head.—Dura mater adhering strongly to cranium. Longitudinal and lateral sinus full of liquid blood. On the superior part of the cerebrum the arachnoid is rough and gritty to the touch, and adheres strongly to the convolutions, which are not flattened; beneath the arachnoid on both sides, but especially the left, are scattered yellowish patches adhering closely to this membrane, and detached with it from between the convolutions. Vessels of the pia mater not injected. Base of the brain covered and nearly concealed by a layer of concrete yellow substance, in which are a multitude of round, gray, semi-transparent granulations, very hard, and not larger than a millet

seed, but in general much less. This layer covers the commissure of the optic nerves, the annular protuberance, and the medulla oblongata; it is seen on the whole posterior surface of the brain, and upon the cerebellum, being less in the form of a distinct layer as it approaches the sides of the brain, and is replaced by the irregular patches described, on the convex surface. The same straw-coloured substance is prolonged on either side into the fissures of Sylvius, and extends throughout their whole length; it is most abundant on the left side, where it is six or eight lines in breadth, and from two to four in thickness; it is but little less on the right. The substance surrounds and conceals the vessels of the fissure, is of a cartilaginous hardness, but does not present as distinct granulations as the layer at the base of the brain. Plexus choroides rough to the touch, and containing some very minute transparent granulations. Cerebral substance of the summit of the brain is firm, very moderately injected, the gray a little rose-coloured, the white but little dotted with blood. Corpus callosum and fornix pale and firm; consistence of the whole right hemisphere, except along the fissure of Sylvius, perfect; injection very moderate. The inferior two-thirds of the corpus striatum of the left side was pulpy, of a yellowish colour; below the corpus striatum the brain was softened to the following extent; superiorly the softening was bounded by the corpus striatum; inferiorly by the fissure of Sylvius, and around the fissure by a portion of sound cerebral substance at the base, from one to three-fourths of an inch thick; its antero-posterior diameter was from two and a half to three inches, beginning less than an inch from the anterior extremity of the brain. The softened part was pulpy, but not diffuent, although in strong contrast to the firmness of the surrounding parts, of a pale orange-yellow colour, dotted with a few red points, which became more numerous near the fissure of Sylvius. The sound cerebral substance was rather abruptly continued into the diseased parts, but there was no increase of vascularity, or traces of a cyst. Each lateral ventricle contained about two drachms of limpid serosity. Spinal marrow could not be examined.

Thorax.—Lungs not adherent; no granulations or tubercles in the pleuræ. Right lung contains in all its lobes, especially in the upper, a multitude of gray, semi-transparent granulations, which are most numerous beneath the pleuræ; these granulations are thickly disseminated throughout the whole pulmonary parenchyma. Two or three yellow, hard tubercles, not larger than peas, are found in the upper lobe. Left lung wrinkled near the summit, above a mass of gray granulations, the size of a hazel-nut, deposited in hardened pulmo-

nary tissue, apparently owing to an infiltration of the same gray matter; gray granulations similar to those in the right lung, but less numerous, are found beneath the pleura, and throughout the tissue of the lobe. The lower is like the rest of both lungs, dark-coloured and permeable, but contains no tubercles or granulations. Bronchi in both lungs rosy, containing a little mucus. Bronchial glands small, containing but a single point of yellow tuberculous matter. Heart firm, red, containing liquid blood. Pericardium not adherent.

Abdomen.—Stomach contains a thin greenish liquid. Mucous membrane pale throughout, rugous and mammillated; thickness a little increased, especially along the large curvature; consistence perfect.

Small intestine, (examined only in the six feet nearest the valve.) Glands of Peyer ulcerated, of reddish-brown colour, and studded with tuberculous points. Mesenteric glands small, pale, not tuberculous.

Large intestine not examined.*

Liver brown, a little engorged with blood, not fatty, without tubercles or granulations. *Spleen*, numerous gray granulations in its membrane, and a few in its tissue, which is firm; length three inches and a half, breadth an inch less.

CASE III. *Tuberculous Meningitis, and Effusion in the Ventricles supervening in a Phthisical Patient*.—T. G. æt. 30, a weaver, married, has three children, from Lancashire, entered May 21st, 1835. Has been three years in America; father and mother still living; the latter thin and delicate; lost a brother and sister of pulmonary consumption; has two brothers and a sister living, but with one exception, rather delicate.

In the summer of 1832, was taken with fever, accompanied by delirium, lasting several weeks. He recovered, but never quite regained his former strength; since that time, is subject to head-ache and dyspepsia, with flying pains about the epigastrium and stomach. Bowels habitually constipated. Last December had hæmoptysis, lasting several days, of bright-red blood, quantity moderate, but not recollected. Cough began after the hæmoptysis, and has continued since, is dry, short, with scanty transparent expectoration. The hæmoptysis was renewed a day or two before his entrance; the blood was bright-red, not exceeding one or two table-spoonfuls in the day, and ceased after three or four days. No constant pain in the

* The body was removed to the country for burial, and time was not allowed for a detailed examination of all the organs. The points of greatest interest were verified with much care.

chest; emaciation rapid from the first hæmoptysis; sweats profuse at night, cold and clammy for at least two months before his entrance; constipation habitual; appetite bad; cephalalgia continued; no alteration was observed in his intelligence, except that he was more nervous and irritable than before his sickness.

At his entrance the emaciation was very great; slight œdema of legs; strength very feeble; intelligence good, but is very restless; sleeps badly; answers correct, but not precise, running into details foreign to the question, like those given by hypochondriac patients; cephalalgia constant, but much diminished when a laxative had operated; hearing good; sight natural; skin dry; sweat at night; pulse from 110 to 130; cough short, dry; expectoration of transparent mucus, with bright blood in small quantities intermixed; no pain in chest, uneasiness referred to base of sternum; appetite bad, cannot eat meat, but asks for porridge; constipation; vomiting on two or three occasions of the liquid drunk, a little tinged with bile; percussion of chest sonorous throughout its whole extent; auscultation difficult, from the nervous spasmodic respiration, caused by the application of the ear to the thorax, but respiration pure, though very feeble in the whole anterior part of the chest; no rhonchus heard; auscultation imperfect posteriorly, but without other results than the very feeble pulmonary expansion; intercostal spaces depressed on both sides; post and sub-clavicular depressions very great, much deeper on the left than the right side of the chest. Pectoral mixture, with gr. j. of sulphate of morphia. Decoction of Iceland moss, a pint daily. Three cups, (scarified to each side of the chest.)

From the entrance of the patient to the 8th of June, no important change occurred in the symptoms. The strength gradually declined, but there was no increase of the cough. The cephalalgia was frequent, but ceased entirely after the administration of a mild cathartic.

On the 8th of June, vomiting of abundant greenish liquid, and strong acid taste in the mouth. Magnesia in mint water, ʒj. Some of his friends saw him during the day, and remarked that his intellect was more confused than previously.

On the 9th, recurrence of the vomiting; cephalalgia not more intense than on the preceding day; answers rather slow; somnolence at intervals. Towards evening slight delirium. At 11, P. M. Delirium, continuing the night; he attempts to leave his bed; talks vaguely, at times muttering, but sometimes in a loud voice.

10th, at 7½, A. M. Decubitus listless; face flushed in irregular patches on each cheek; nostrils contracted; mouth alternately retracted to the right and left side; eyes open, the left more than the

right, pupils turned upwards, dilated, but regular; no strabismus; frequent grinding of the teeth; head thrown a little backwards; right arm in motion, grasping, as if at objects in the air; no evident rigidity, but resistance to efforts at flexing or extending all the limbs; sensibility on pinching, obscure generally, rather more on the left than the right side; intelligence almost destroyed, but he still answers to some questions, says he feels well; hearing very dull; sight doubtful; delirium constant; words distinct, but incoherent, moderately loud; no subsultus at the wrists; protrudes his tongue when directed to do so in a loud voice, it is whitish, but moist, and not turned to either side; deglutition easy, drinks eagerly, and takes a few spoonfuls of arrow-root; abdomen tympanitic, not tender; no stools, nor vomiting; urine discharged in the morning; pulse regular, of moderate volume and strength, 120 in the minute; respiration 16, rather high, not stertorous; cough and expectoration entirely suspended. Ten ounces of blood to be taken by cups from the head. Ice to the scalp after the cupping. The pulse did not falter after the cupping, and in the afternoon ten or twelve ounces more of blood were taken by leeches from the temples, and a large blister applied to the back of the neck.

11th. No amelioration; same countenance and variable distortion of the mouth; less motion of the left arm and leg; constant agitation of the right limbs; answers as indistinct as on the 15th, but less loquacity; pulse 116, still firm; two liquid discharges; urine retained, a pint was drawn off by the catheter; blister discharges much serosity. Apply twelve large Italian leeches to the temples. In the afternoon the answers were rather more distinct, and the sight seemed less obscure; motion and sensibility as before.

12th. Stupor and some delirium during the night; countenance less flushed; left eyelids widely open, pupils dilated; sight gone, except at intervals, when he attempts to point out objects, but in a confused manner; answers very rare and doubtful; mouth more distorted, more constantly deviated to the right side; sensibility very obscure in the right side, nearly destroyed in the left; rigidity greater on both sides, but no permanent contraction, it is equally difficult to flex or to extend the limbs; no subsultus; pulse 116, rather less strong, but regular; respiration not stertorous, 16; diarrhoea, with two liquid stools. Twelve leeches were again applied to the temples. In the night respiration became for a time stertorous, but there were no convulsions.

On the 13th the pulse was too frequent to be counted; sight and hearing completely lost; same state of the pupils; no evidence of sensibility on pinching any part of the body; rigidity general; mouth a

little drawn to the right side; sweat abundant; secretion of urine continues, and still requires the catheter; deglutition very slow and difficult; no cries; the pulse became more feeble towards evening, and the patient expired during the night.

Autopsy, June 14th, at 10, A. M.—Exterior. Great emaciation; no œdema, or lividity; rigidity moderate; percussion of thorax sonorous in the whole anterior part of the right side, flat above and on the clavicle of the left, and rather less sonorous inferiorly than the right. On the posterior part of the chest percussion dull, at the upper part of both lungs, especially the left.

Head.—Longitudinal sinus empty; little blood on the exterior of dura mater. Arachnoid moist, but glutinous to the touch. Pia mater moderately injected, not infiltrated with serosity, and detached without tearing the cortical substance, which is of a light grayish-pink colour, and perfectly firm; medullary portion very moist, white, moderately dotted with red points. At the base of the brain there is very little serosity, but the arachnoid generally is semi-opaque and lactescent. The opacity is greatest around the commissure of the optic nerves, and upon the pons varolii, where it is rough to the touch, from the presence of numerous semi-transparent granulations, similar in size and appearance to those found in the lungs. The granulations are closely disseminated through this part of the membrane, which is white and opaque in the intermediate space. The granulations may be traced upon the anterior lobes of the cerebrum, and on each side to the fissure between it and the cerebellum. In the fissures of Sylvius and in the lateral fissures, the granulations are the most numerous, and are there surrounded by a yellow concrete substance, resisting pressure, and closely enclosing the vessels of the fissure. The cerebral substance immediately in contact with the last-mentioned masses, is rather softer than elsewhere, but of a light ashen colour. The cerebellum and pons varolii are firm and pale. Lateral ventricles distended by three or four ounces of limpid serosity; fornix and septum lucidum pale, softer than usual, but not pulpy. At the posterior extremity of the right lobe of the cerebrum, a yellow tubercle, as large as a small pea, was found in the pia mater. Spinal marrow not examined.

Thorax.—Both pleuræ united to the ribs by strong and close cellular adhesions, more firm on left than on the right side. *Left lung.* Upper lobe heavy, of a general dark colour, resisting pressure, but containing air at its anterior and inferior part. The pulmonary tissue is *filled* with an infinite number of semi-transparent, gray granulations, very equal in size, which in none exceeds that of a grain of millet.

The quantity of these granulations is so great at the summit of the lung, that they there compose the greater part of the pulmonary mass, and replace the cellular structure of the lung. The lower lobe contains numerous granulations similar to those of the upper lobe, more abundant at the superior than the lower part of the lobe. The pulmonary tissue is permeable, and not injected, but as in the other, is darker than usual, from the great quantity of black pulmonary matter. No large or yellow tubercles found. Bronchi containing a little florid blood, but their mucous membrane is pale and transparent. *Right lung.* Upper lobe nearly as full of granulations as the left, but not in its anterior edge, which is permeable to the air; in other respects it is similar. Middle and lower lobes dark-gray, soft, containing fewer granulations than the rest of the lungs. Bronchi pale, containing a little mucus. Bronchial glands dark-gray, firm, not tuberculous nor cretaceous. Pericardium contains from one to two ounces of yellowish serosity. Heart firm, dark-red, containing liquid blood and some coagula in the right side. Valves natural; aorta pale.

Abdomen.—Peritoneum without tubercles, containing an ounce or two of serosity. Stomach rather contracted, containing no liquid, but coated with a layer of very tenacious, white mucus. Mucous membrane mammillated throughout, offering numerous depressions, with no redness or thickening of their edges, the largest not exceeding a line in breadth. The depressions are formed throughout the stomach, except at the great tuberosity, and do not extend to the cellular coat. In the great tuberosity the membranes is grayish, smooth, of good consistence, not thickened or injected; in the rest of the stomach it is nearly double the usual thickness, brittle, but yields strips nearly of the usual length; the injection is bright, and dotted in the pyloric two-thirds.

Small intestine containing a little yellowish mucus; membrane pale and firm. Glands of Peyer scarcely visible except near the valve, where three of them are nearly a line in thickness, of a livid-red colour, and present from one to three rounded ulcers, with elevated perpendicular edges. Isolated follicles not visible. Mesenteric glands small, firm, not tuberculous.

Large intestine contains a little soft brownish mucus. The mucous membrane is no where injected, generally pale, not thickened; follicles not visible, consistence generally good, a little less than natural in the cæcum and ascending colon.

Liver rather smaller than usual, very hard, of a yellowish-brown colour, the two substance not distinct, not fatty or tuberculous, but

greenish. Spleen firm, dark brown, containing one or two cretaceous masses, not larger than peas. Kidneys firm, not tuberculous. Bladder distended with urine, but mucous membrane pale, and not tuberculous.

The preceding cases are the only examples which I have witnessed in America of the tuberculous meningitis of adults. The disease is not often found after the age of fifteen or sixteen years, but is very common in children when it forms one of the diseases classed under the term hydrocephalus. A number of cases were published in the Nos. of the American Journal for February and May, 1834, with an analysis of others, in all about forty. The evidence of the facts shows, that the fatal diseases of the brain and its membranes, which occur in children above the age of two years, were almost peculiar to tuberculous children, and with one or two exceptions, tuberculous matter was discovered in the membranes of the brain. Not a few cases of the same tuberculous meningitis have been observed in adults, especially such as were already attacked by pulmonary phthisis, but in such cases the lesion has nearly always been confounded with simple meningitis. More accurate observation, founded on the comparison of the pathological phenomena of children and adults, has shown the rare occurrence of idiopathic meningitis. At the base of the brain, the disease is rather frequent, but it seems peculiar, or nearly so, to tuberculous subjects. I have met with the disease three times in adults, who were all tuberculous; one of the three was admitted into the hospital for pulmonary consumption, and the cerebral disease occurred after his admission. In children, where my field for observation was larger, nearly forty dissections of meningitis were made, without finding a single exception to the law, that the meningitis at the base was never idiopathic.

The cases detailed by M. ANDRAL, and in the work of PARENT and MARTINET, sometimes mention the existence of tubercles in the brain, or its membranes, as well as in the lungs. The observations of M. Andral do not always mention the absence of lesions in the organs least affected, but are confined to graphic descriptions of the alterations which attracted the attention of the observer. I refer to the earlier observations of M. Andral, who has since adopted a most accurate and thorough method of observation. The greater number of the observations of MM. Martinet and Parent Du Chatelet were not made by themselves, but are extracted from the notes of the internes of the French hospitals; they are consequently very incomplete. In the work of M. LOUIS on phthisis, examples are given of patients in whom the immediate cause of death was a lesion of the

membranes of the base of the brain; unfortunately, the attention of this admirable observer was not particularly directed to the cerebral lesions, and the description is less minute than could have been desired. In all the cases, or nearly in all, the disease of the membranes of the brain was regarded as an accidental complication of phthisis when the tubercles of the lungs were very numerous, but it was not considered analogous to the tuberculous lesions of other serous membranes. A more complete description of the lesion adds considerably to the knowledge we possess of the development of the tuberculous affections, and demonstrates the necessity of an accurate examination of all the organs. This necessity is not fully understood in the United States, and still less so in Great Britain.

The second and third cases in which the disease was most advanced, presented a lesion of the lungs, which is very common in the tuberculous meningitis of children. There were very numerous gray granulations equally developed, and scattered throughout the whole of both lungs. These granulations were not unlike in colour and size to those found at the base of the brain. The anatomical lesions of the brain itself were chiefly confined to the base; the cerebral substance immediately in contact with the yellow, concrete, tuberculous matter, was generally softened, but the arachnoid was dry, and in the second case there was not much fluid in the ventricles. The disease in adults, as in children, is totally independent of the accumulation of serosity, although it is most frequently termed hydrocephalus.

The diagnosis in the first case, which I witnessed only during the two days preceding death, was very obscure. The absence of paralysis, and of rigidity, until the last days of life, rendered it very probable, however, that the lesion was seated in the membranes. In the second case the symptoms were doubtful from some of them seeming peculiar to softening of the brain, and others indicating a tuberculous inflammation of the membranes. There was sudden retraction of the mouth, and imperfect paralysis in the contracted side, with confused intelligence, but not complete loss of motion, or of consciousness, on the other hand, the patient was scrofulous, was of a family in which tuberculous diseases were common, and had been long subject to head-ache, gradually increasing in intensity until the complete development of the disease. At the entrance of the patient, the subsultus tendinum, the floccitation, the countenance, and the frequent pulse, seemed to confirm the probability of tuberculous meningitis, but the great, and at first, the constant rigidity of one side of the body, indicated the existence of softening of the cere-

bral substance. The autopsy showed that the diagnosis was doubtful, because both the tuberculous meningitis and the softening had occurred during life.

The treatment in the first and second cases was antiphlogistic, but there was not in either case much prospect of saving the patient; the second was almost hopeless at the time of admission. When tuberculous meningitis is fully developed, it almost necessarily terminates in death; in this disease, as in the tuberculous affections of other organs, the skill of a physician consists rather in preventing the development of tubercles than in promoting their removal when once secreted.

The third case was on some accounts the most interesting, for the symptoms of the cerebral lesion commenced after the admission of the patient. It was received as a case of phthisis, and presented the usual symptoms of the disease, but the physical signs were doubtful, partly from the nature of the tuberculous lesion, and partly from the restless state of the patient, which rendered an accurate examination extremely difficult. The sound on percussion was clear on the anterior part of the chest, except at the left clavicle; the obscurity in the upper posterior part was doubtful, and the respiration was characterized only by the very imperfect vesicular sound. The signs were explained by the presence of the granulations without masses of tubercular matter in any part of the lungs. There was consequently no bronchial respiration, or flat sound on percussion. The conformation of the chest was that peculiar to phthisis; the depressions above and below the clavicles were much more evident than they usually are, especially on the side corresponding to the most diseased lung.

As soon as the symptoms of the disease of the brain supervened in this patient, the existence of tubercular meningitis was recognised, and little hope remained of saving the patient. The treatment adopted, was the local abstraction of blood to as large an extent as the patient could bear, with a blister to the back of the neck. Unfortunately, the result was as unfavourable as it usually is in the organic lesions of the brain; the cases terminated fatally, as those detailed in a former No. of the *American Journal*, which were observed at the Children's Hospital of Paris. Such results are, in the majority of cases, inevitable, and are sometimes ascribed by those ignorant of the true pathology of cerebral lesions to differences in the treatment, which is nearly equally fruitless in these grave diseases.

CASE IV. *Cerebral Hæmorrhagy, Paralysis of the opposite side—Absorption of Coagulum and formation of Cellular Cyst.*—C. —, a black, æt, 52, entered July 29th, 1834. He is a ship's cook; was No. XXXIII.—Nov. 1835.

perfectly well during his voyage from Boston. Two or three days after his arrival, while at his work, became suddenly dizzy, fell upon the deck and vomited; lost his consciousness entirely for fifteen minutes, and did not perfectly recover himself until his arrival at the hospital the next day. At his entrance his skin was cold; no power of motion either in left arm or leg; face drawn towards the right side.

The loss of motion of the left arm and leg continued during the whole disease. Rigidity and contraction of the left arm and leg began two or three days after his entrance; at times there was a sensation of prickling or itching through the whole of the affected limbs, which was not constant; he has had no cephalalgia; hearing and sight always good; appetite excellent; bowels open nearly as often as in health; urine natural and perfectly voluntary; speech always a little difficult. The treatment was antiphlogistic, consisting in blood-letting; blisters constantly discharging from the back of the neck, and a succession of purgatives.

On the 26th of November slight general emaciation, extreme on the left side of the body; mouth a little drawn to the right side; right nostril more dilated than the left; eyelids equally open, pupils natural; left arm contracted, motionless, retaining only sufficient sensibility for him to feel a very smart pinch; rigidity very great; left leg extended, rigid, motionless, and nearly as insensible as the arm; sight, hearing, and taste seem natural; no cephalalgia; intelligence good; sleep natural; expression cheerful; deglutition easy; appetite and thirst natural; respiration 12 in the minute, performed chiefly by the muscles of the right side; pulse at 100, regular, rather full; nearly complete absence of venereal desires.

During the winter his pulse continued more frequent than natural; the rigidity and paralysis of the limbs of the left side continued without alteration; appetite good; stools rare, but promoted by the frequent administration of the milder purgatives.

Towards the end of the winter, ulcerations occurred upon the sacrum and left trochanter. These ulcers increased, notwithstanding every effort for diminishing pressure, and gradually extended to the whole surface beneath the sacrum and left ileum. The patient was gradually weakened, when the discharge from the sores became greater, and died on the 3d of May, in the last stage of emaciation.

The motion of the right arm and leg became more feeble during the last two months. In the early part of March, there were some convulsions on the right side of the body; from that time there was a little rigidity on this side, but never sufficient to prevent motion of these limbs.

Autopsy, May 4th, thirty hours after death.—Emaciation extreme; muscles very small and pale; no infiltration; over the sacrum, and extending to the hips, is a large grayish ulceration, denuding the projections of the bones; contraction of the left arm, and rigid extension of the other limbs.

Head.—Dura mater more adherent to the skull than usual, a little liquid blood in the longitudinal sinus. Arachnoid less moist than usual. Pia mater pale, moderately adherent to the brain. The cerebrum on the left side was pale, firm; the cortical substance firmer than usual, and of a light gray colour; the medullary not injected. Central parts firm and pale; a drachm of limpid serosity in each ventricle. The right hemisphere in colour and consistence was similar to the left in its upper part. On a level with the ventricles, half an inch to the right of the corpus striatum, there was a whitish cellular mass, an inch and a quarter in length, a third of an inch in breadth, and at least an inch in depth; the mass adhered closely to the substance of the brain, was composed of irregular laminæ adhering together, but no liquid could be detected in the interstices between them. The cerebral substance around this mass in the breadth of an inch on either side, including the corpus striatum, was evidently softer than the rest of the cerebrum, but not pulpy; the softened medullary portion was tinged with yellow. Cerebrum pale and firm; the crura of the cerebrum were each a little softened at their origin. Pons varolii and medulla oblongata pale and firm.

Medulla spinalis pale, and of perfect consistence.

Neck.—Pharynx and œsophagus pale; larynx and trachea pale, not ulcerated.

Thorax.—Slight cellular adhesions at the lateral part of the left lung and near the summit of the right. *Right lung.* Its upper lobe is gray, soft, rather more crepitant than usual, especially along the anterior margin, where the vesicles are at least three times the usual size. At the part corresponding to the adhesions, near the surface, and around the large bronchi, the tissue of the lung is of a dusky red colour, not aerated, easily crushed; when cut, it offers a multitude of very minute, yellowish granulations, less hard and smaller than the ordinary gray granulations; when pressed, it yields a purulent liquid, which issues in part from the orifices of the incised bronchus, but is partly expressed from the pulmonary tissue. The lower lobe is soft, and contains little serosity. No tubercles in any part of the lung. *Left lung* grayish, soft, containing little serosity; the vesicles along the anterior margin are a little larger than usual, but there are neither tubercles nor granulations. Bronchi pale, trans-

parent, not dilated. Bronchial glands small and black. Pericardium containing a little limpid serosity. *Heart* of moderate size, firm, dark red; valves flexible; walls of left ventricles of average thickness.

Abdomen.—Stomach not distended, containing little liquid. Mucous membrane of a general slate colour, less marked near the cardia than elsewhere, thickness and consistence natural in the cardiac two-thirds of it; strips more than an inch long in the small curvature; six to eight lines on the faces; in the third nearest the pylorus the membrane is thickened, mammillated, of a dark slate colour. In the small curvature, about an inch from the pylorus, are five ulcerations, one linear an inch in length, a third of an inch in breadth, edge red, the base nearly pale, formed by the submucous cellular substance; the ulcerations have abrupt, elevated, dark red edges; the mucous membrane around them is of a darker colour than elsewhere, but not highly injected, and not altered in consistence. At this portion of the stomach the thickness of the muscular coat was nearly a line, it was very hard, and of a pearly colour; the cellular was also hardened, and nearly as thick as the muscular coat; the thickening extended to an inch and a half or two inches from the pylorus.

The *small intestine* is much contracted, pale externally, and in its mucous membrane, which is thin, rather more adherent than natural, but not softened. Glands of Peyer pale, little developed. Isolated follicles scarcely visible. Glands of the mesentery small and firm.

Large intestine contracted, containing some hardened fæcal matter; mucous membrane throughout pale, thin, but firm.

Liver firm, brownish. Spleen small and firm. Kidneys and bladder natural. The other viscera presented no appreciable lesion.

Case V. which is confined to a detail of the anatomical lesion, is interesting only from the sudden termination. It is much more rare than is generally supposed, for cases of cerebral hæmorrhagy to terminate thus suddenly. The large effusion of blood, and the compression of the fluid contained in the ventricles upon both hemispheres, explain the speedy approach of death.

C. —, an insane patient, has resided at the Pennsylvania Hospital for the last twelve years. He had long been in a state of dementia, but was tranquil; strength and appetite natural. He dined heartily on the 28th of September, 1834, and was perfectly well at half past one; he was left by the attendant in a room with other tranquil patients, and was found by him, on his return, an hour afterwards, lying on the floor. Beside him there was the matter vomited, consisting of the food swallowed just before. The body was warm;

no remains of sensibility; face swollen and livid. Rubefacients were applied to the limbs without success.

Autopsy, September 29th, nineteen hours after death.—Exterior. Lividity of the face, neck, and posterior part of the body. Moderate corpulency. Strong rigidity of all the limbs.

Head.—Much fluid blood ran from the incised scalp. Liquid blood in the longitudinal sinus. Glands of Pacchioni much developed. Little liquid in the arachnoid. Cortical substance rather flattened; vessels of the pia mater very moderately injected. Obscure fluctuation at the summit of both hemispheres. Cortical substance rosy; medullary a little dotted with blood, consistence good. About three quarters of an inch above the left corpus striatum, a large black coagulum was discovered as large as a goose's egg; it extended downwards to the fissure of Sylvius, in which were some small, black clots, and reached to an inch and a half from the anterior extremity of the brain. The coagulum communicated with the left ventricle by a fissure, half an inch long, above the thalamus of the optic nerves, and also through the posterior part of the corpus striatum, which was lacerated to the length of nearly an inch. The cerebral substance around the coagulum was reddish to the depth of an eighth of an inch, but the redness was general, like that of imbibition, and was not accompanied by any increased development of vessels. The consistence was a little diminished in the reddened part, elsewhere it was perfect. The optic thalamus was of good consistence, but the corpus striatum was pulpy, of a dark livid gray colour, with little black clots scattered through its substance. Right hemisphere was throughout firm, moderately injected, of perfect consistence, except the corpus striatum, which was softened and nearly pulpy. Ventricles distended by at least four ounces of thin liquid blood. Central parts a little softened. The brain at its base was firm, and very moderately injected. Cerebellum of moderate consistence, not injected.

Abdomen.—Stomach distended by the remains of bread, meat, and vegetables; mucous membrane lined by a whitish, pulpy coat, of a general and beautiful rosy tinge, from a multitude of red points and fine vascular ramifications. Consistence perfect, and thickness apparently normal. The duodenum and upper third of the small intestine are filled with the same milky liquid; mucous membrane of similar colour to that of the stomach, but less vivid. In the lower two-thirds of the small intestine there is a greenish-yellow liquid, tinging the membrane, which is not injected. Glands of Peyer pale, slightly developed. Glands of Brunner distinct. Mesenteric glands

corresponding to the upper third of the intestine, are of a milky whiteness; when incised, a whitish liquid exudes from them; the others are pale and firm. Lacteals not noted. Large intestines containing much fæcal matter; membrane pale and firm.

CASE VI. *Acute Softening of the Brain, particularly of the Left Hemisphere—Rigidity and Paralysis at first of the Right Limbs, afterwards of both—Delirium.*—A black, aged twenty-three years, entered the Pennsylvania Hospital on the 26th of March, 1834. He has lived for the last four years in the same family as a domestic; has enjoyed excellent health, and is addicted to no excesses. The only illness was an attack of slight rheumatism a few months since. He married four weeks before his admission. A fortnight after his marriage, on the day following a visit to his wife, he complained of a numbness of the right hand. He ascribed this sensation to lying upon his hand at night, but consulted a physician, who directed some stimulating liniments. After a week he regained the entire use of his hand, and continued well for another week, with the exception of a little dullness of mind, which was remarked from the beginning. On the morning of the 24th, the day after visiting his wife, the numbness of the hand returned, with greater difficulty of motion. He was bled, and admitted into the hospital on the 26th. Three or four days after his entrance, the motion of the right leg was difficult, as well as of the arm; but he walked until the 2d of April. Intelligence confused, lost entirely about the same date; no violent delirium or cephalalgia, or intolerance of light, and no sudden loss of consciousness; vomiting not observed. He was bled twice, and cupped as often, with the frequent administration of purgatives. I saw the patient for the first time on the 2d of April, when no symptom other than those mentioned, was noticed. The case was not noted until the 4th.

April 4th, at noon.—Height middle; rather thin than corpulent; is seated and keeps himself erect; expression of countenance wild; pupils natural, eyelids equally opened, look fixed; mouth deviated a little towards the left side and downwards; frequent sardonic grinning; motion and sensibility of the left arm and leg natural, but nearly perfect loss of motion of the right leg, and complete immobility of the arm; loss of sensibility in the right arm, and diminution in the leg; rigidity evident at the right elbow only; speech scarcely articulate; great dullness of intellect, but he makes efforts to answer questions; swallows when food or drink is put to his mouth; muttering delirium at intervals; sleep disturbed; tongue natural, not deviated; anorexia; thirst doubtful; no dejections; heat nearly natural

no cough; pulse 88, regular, respiration 16. Six cups to the head. Infusion of senna and sulphate of magnesia. In the evening the pulse was at 100, intermittent. No other change.

5th. More delirium during the night; attempted to rise, and fell to the ground; delirium constant, but still seems to recognise his wife; complete paralysis of right arm and leg; rigidity doubtful; deglutition more doubtful; one stool; no priapism; pulse 100, regular. Aloes and jalap, āā. gr. v. In the evening pulse 85, regular.

6th. More noisy delirium; inarticulate cries; idiotic expression of the countenance, but slight deviation to the left side; eyelids and pupils natural; same paralysis, but greater rigidity of the right arm, and a little of the right leg; a little loss of motion on the left side; deglutition very difficult; no answers; pulse 80, a little irregular. During the day the right arm became flexed permanently, with great resistance when efforts were made to extend it. Pulse intermittent in the evening, 80; no heat of skin.

On the 7th, great rigidity of all the articulations of the right arm and hand, with permanent flexion of the elbow and wrist; doubtful rigidity on the left side; great stupor; pulse 80 to 90, a little intermittent. In the afternoon spasmodic tremor of all the limbs, more evident in the right than the left; the tremor lasted nearly a quarter of an hour. Afterwards increase of feebleness; answers still more difficult; rigidity evident in all the limbs, except the left leg; in the left arm it was without contraction; urine voluntary; stools after a purge of senna.

On the 8th, both arms were firmly crossed on the breast, and required strong efforts to extend them; the contraction exists also in the fingers; rigidity, without contraction of the inferior extremities; sensibility generally very obtuse; muttering delirium; slow, difficult deglutition; sardonic cough; respiration very stertorous; pulse 120, smaller.

9th. Profound coma; rigidity of limbs, and insensibility nearly equal on both sides; pupils natural; deglutition lost. Death at 6, P. M.

Autopsy, April 10th, seventeen hours after death.—*Exterior.* Moderate embonpoint; no infiltration; rigidity very great in all the limbs; arms flexed. Blood exterior to the dura mater rather abundant, but little in the longitudinal sinus. Glands of Pacchioni not visible. Arachnoid rather dry, no serosity beneath it. Pia mater moderately injected, except the large veins, which are distended. Cortical substance of the upper part of both hemispheres much injected. On the left side, the cortical substance adjacent to the longitudinal sinus, is much more deeply injected than elsewhere, of a reddish-brown colour,

decidedly softened, but not pulpy. The softened portion begins at the anterior extremity of the cerebrum, and extends to two-thirds of its length, in the breadth of an inch, or rather more. The medullary substance immediately below the cortical is also softened, but in a less degree, and brightly injected, with a general yellow tinge; there is no distinct line of separation between the softened part and the contiguous cerebral substance. At the centre of the left hemisphere, there is a yellow softening, which is converted into a cavity, the size of a filbert, by gently scraping it with a scalpel. In the rest of the hemisphere the cortical substance is of a brighter red than usual; the medullary much injected. *Right hemisphere.* Cortical substance of summit injected, but less than in left side. The anterior and upper fourth of the cerebrum presents three softened portions, reduced to a pulp by gentle scraping, separated from each other by firmer cerebral substance. One of these softenings is at the anterior extremity; another just behind it on the great fissure, is an inch and a half in length, but rather less in breadth, and the third a little to the right of the other two, is smaller, and confined to the cerebral substance. The softened cortical substance is reddish-brown; the medullary yellowish; the rest of the hemisphere is firm, but more injected than usual. Each of the lateral ventricles contains one drachm of limpid serosity. Plexus choroides injected. Fornix and septum lucidum firm and pale. Left corpus striatum injected, and a little softened; right firmer and less injected. Optic thalami firm, slightly injected. At the base of the brain there was an ounce to an ounce and a half of serosity. Pia mater less injected than at the summit. No alterations in the fissures of Sylvius. Cerebellum firm, moderately injected. Pons varolii and medulla oblongata firm. Spinal marrow moderately injected, firm; cortical substance rose-coloured.

Thorax.—Right lung, a few old cellular adhesions at its inferior and lateral portions. Engorgement at its posterior inferior part only; elsewhere tissue not congested, and permeable to the air. No tubercles, or granulations, or emphysema. Bronchi not thickened, violet coloured, containing a little mucus. *Left lung.* Lower lobe dark brown, containing much reddish serosity, and but little air, friable, but not granulated. Upper lobe contains less blood. Bronchi livid, not thickened. Pericardium offers little serosity. Ventricles of the usual thickness, containing a little fluid blood, firm.

Abdomen.—Stomach contains a little brown mucus; injection of the large vessels of the great tuberosity, and a few spots of ecchymosed blood along the large curvature, where the membrane is thinner in irregular spots and longitudinal bands than elsewhere. Pos-

terior face slate-coloured, with bright punctuated redness, thickened, consistence diminished. On the anterior face there were pale, longitudinal bands, with thinning of the mucous membrane, which was yellowish in the intervening spaces, and softened slightly.

Small intestine not distended, containing a greenish mucus in the ileum. Mucous membrane firm, not injected. Glands of Peyer pale, scarcely visible, not elevated. Mesenteric glands firm and grayish.

Large intestine moderately distended, containing a little hardened fæces; mucous coat firm, and not injected.

Liver dark brown, firm, two substances distinct. Dark bile in the gall-bladder. Spleen firm, four or five inches in length. Kidneys firm, not granulated.

Observations of inflammatory softening of the brain are not so common as to deprive details of interest. Obscure cases are indeed only useful when published with sufficient details to give them a distinctive character, which must be done by stating many negative facts, describing the healthy state of the greater part of the viscera. The present case resembled in no respect cerebral hæmorrhage, but might have been confounded with tuberculous meningitis. The peculiar features in the case were the slow increase of the palsy, which at first seemed totally unconnected with a lesion of the brain; the rigidity of the muscles, and the character of the delirium, which nearly resembled mania. The slight symptom of numbness in one arm, without an assignable cause, proved of vast importance, and seemed to coincide with the earliest stage of the disease. It was impossible to ascertain whether the sensation of prickling or formication was felt at the same time as the numbness. The strong, permanent rigidity, which constitutes the pathognomonic character of softening of the brain, was well exemplified in this case. As soon as this symptom was recognised, the diagnosis was evident; but at the advanced stage of the disease, it is much less useful than at its commencement, when there is still a prospect of saving the patient. Although it would have been scarcely possible to affirm the existence of softening of the brain from simple numbness of an arm, with dullness of intellect, there is always in such cases a reasonable ground for suspecting that a grave lesion is taking place. Neither apoplexy, meningitis, nor chronic tumours of the brain offer similar symptoms, but they are commonly observed in softening of the brain. The difficulty of the diagnosis was in this case increased by the complete cessation of the numbness, although the intelligence was always duller than natural. Very little fever was observed at any time; the pulse was not very frequent, and at times was irregular.

The lesion of the brain occurred at the anterior and upper part; a portion of the cerebral mass, supposed to be especially connected with the development of the intellect. There was also a lesion of one of the corpora striata, and another in the centre of the left hemisphere. The symptoms corresponded with the lesions; there was a diminished power of motion and numbness of the right arm from the beginning, with enfeebled intellect during the whole course of the disease. As the disease advanced, the left arm lost its power of motion, and the rigidity gradually extended to all the limbs. The lesion on the right side of the cerebrum corresponded to the palsy on the left side of the body, was less advanced than that of the left hemisphere, and probably began at a later period. The injection of the cerebral substance around the softening, and the acute nature of the symptoms, show clearly enough that the disease was of the inflammatory form. The symptoms were not, however, of such a nature as to give rise to fears at the early period of the disease; for softening of the brain, even when most acute, is an obscure disease. The diagnosis was not certain until the occurrence of the decided rigidity, which constitutes one of the best pathognomonic signs of cerebral softening. The character of the rigidity differed from that observed in the cases of tuberculous meningitis, (I. II. III.) it was more intense and constant, in the latter stages amounting to permanent flexion of the upper extremities, and extension of the lower.

The treatment followed at the hospital was such as offered the best chances of success. Frequent depletion, both general and local, with purging and blisters to the neck, were the principal remedies. It is questionable whether greater success would have attended their use, had the disease been recognised at a very early stage; for softening of the brain is a disease almost necessarily fatal. M. ROSTAN regards the disease as incurable; but his observations were confined to the softening of the brain in aged subjects. This variety does not seem to be of an inflammatory nature.

As an interesting complement to the case of softening of the brain, I will add one of softening of the spinal marrow, which I observed at the Children's Hospital of Paris.

CASE VII. *Softening of the Medulla Oblongata and the Spinal Marrow, chiefly of its Posterior portion—Normal state of Brain and other Viscera—Intellect Preserved—Strong Contraction and Rigidity of the Limbs—Sensibility Increased.*—Josephine, aged ten years, entered October 13th, 1833. (Service of M. BONNEAU.) She was born at Paris, of healthy parents, and is the second of nine children. Four of them are dead; one perished at the age of six months, the

others at that of two to three years, all in strong convulsions. The other children are healthy.* No other relatives were known to have had convulsions. The little girl was at her boarding school on the 6th of October, in perfect health. In the evening she was taken with pain in the limbs, and feeling of lassitude, slight chill, but no pain in the head or back. On the morning of the 7th she rose as usual, but her walk was difficult and tottering. Anorexia, thirst, and vomiting of white glairy liquid; constipation, and pains in the back.

On the 8th she lost all power of motion in both arms and legs, but without rigidity. No cephalalgia, but acute pain in the legs, and increase of the pain in the back. Since the 8th, she has kept her bed, but has no pain, except in the legs, where it is chiefly caused by efforts to extend them. Slight fever.

Treatment.—Two baths daily. Burrage tea; enemata. No blood-letting nor blister.

Present state.—October 16th, 2, P. M. Complexion blond, with light hair; eyes gray, not injected; moderate embonpoint; countenance rather pale, not distorted, not expressing pain; intelligence much developed; mind clear; answers precise, voice firm; no headache, dizziness, or tinnitus aurium; motion of the head limited to a slight rotation and balancing; she can neither raise it up, nor hinder it from sinking; paralysis of the arms, with complete muscular relaxation, but not diminished sensibility. She can still bend the wrists and fingers a little, but cannot extend them; the motion is rather greater on the right side than the left; muscular paralysis of the lower extremities complete on the left side; slight motion preserved at the right toes and instep; sensibility at least as great as usual; doubtful rigidity, but frequent pains in the legs, especially when they are moved; no formication or prickling in the limbs; spine not deviated; pressure upon the spinal processes from the shoulder to the sacrum, gives extreme pain; occasional pains felt between the shoulders, and in the left axilla; skin warm, but moist; sleep natural; voice natural, breath rather short when speaking; deglutition easy; anorexia, thirst; no dejections; abdomen not tender, nor distended; pulse 124, feeble, regular; respiration 44, high; no cough; percussion anteriorly sonorous on both sides of the chest; auscultation impracticable.

* One of them entered the hospital in November, with strong rigidity and contraction of the limbs, (previously, analogous symptoms to those of her sister.) The disease had not changed at the end of a fortnight, when her parents removed her.

17th. Pains in the shoulders; no change in motion or sensibility; hardened lumps felt in the left iliac region. R. Potion, containing an ounce of castor oil, and one of olive oil. Mucilaginous injection. R. Pulv. Dover. gr. vj.

18th. Sleep bad; intellect and senses natural; countenance rather more injected, not distorted; great exhaustion; almost constant drowsiness; no rigidity nor convulsions; sensibility obtuse in all the limbs, equally on both sides of the body; muscular paralysis; dyspnœa considerable, speech interrupted; respiration more difficult, 48; pulse feeble, from 100 to 120; heat natural; tongue grayish, violet red at the tip, not deviated; four voluntary dejections; urine voluntary. Increase of dyspnœa towards evening, becoming extreme at midnight; shortly before her death.

Autopsy 19th, ten hours after death.—*Exterior.* Moderate embonpoint; lividity of dependent parts of body moderate; no infiltration. Skeleton well-formed. Strong rigidity of all the limbs.

*Spine.**—No blood on the exterior of the dura mater. About two drachms of serosity at lower part of arachnoid. The exterior of the spinal marrow was of the ordinary aspect, except in the three inches immediately below the cervical enlargement, where it is alternately shrivelled and enlarged; inferiorly it is smooth and polished. No injection either of the pia mater or arachnoid. Medulla oblongata firm, except a small softening the size of a large pea; two lines below the annular protuberance, in the median line, and near the junction of the corpora olivaria and restiformia. The softened portion is yellowish, dotted with red points; the surrounding portion is firm, and not injected like the rest of the medulla oblongata. The spinal marrow is softened from the end of the medulla oblongata to the distance of three inches from its lower end. In the upper third of this extent the softening is confined to the posterior half, and is especially evident at the sides of the middle fissure. The middle part of the medulla, from the place described to the three inches above its termination, is of a greenish-yellow colour, a little dotted with minute red points, and of pulpy softness, perceptible even on feeling it externally. The inferior portion in the extent of three inches is firm, pale, and smooth.

Head.—Blood moderately abundant on the exterior of the dura mater. Black liquid blood in the longitudinal and lateral sinus. Arachnoid moist, very little serosity beneath it. Pia mater injected

* The spinous processes were removed with great caution by Charrière's double saw—an admirable instrument for the purpose.

in its large vessels only, easily detached from the convolutions. One or two spoonfuls of transparent serosity at the base of the brain. Cortical substance dark violet, medullary much dotted with blood, but the consistence of the brain is every where good. A table-spoonful and a half of limpid serosity in the two ventricles. Cerebellum firm, of the same violet tint as the brain. Annular protuberance firm, not much injected.

Thorax.—Both lungs adhere to the pleuræ by firm and close adhesions. Tissue gorged with blood, especially in the lower lobes, which are less firm than natural. No trace of tubercles or gray granulations in the lungs or bronchial glands. Heart firm, of the usual aspect, containing much black blood. Larynx and trachea pale.

Abdomen.—Liver engorged with blood. Intestinal canal from the cardia to the rectum, without appreciable lesion either in thickness or consistence. Stomach of a general rose-colour, and intestines pale. Some hardened fæces in the colon. Agglomerated and isolated follicles of the small intestine normal.

Remarks.—This case contrasts very strongly with the preceding, from the entire integrity of the mental faculties, and the important alterations of the function of locomotion, and afterwards of the sensibility. The power of motion was diminished at a much earlier date than the sensibility, although the lesion was more advanced on the posterior than the anterior face of the spinal marrow. It is true, that the part of the marrow where the disease was most conspicuous, presented a lesion extending to the whole of its diameter. The precise state of the sensibility is determined with great difficulty in children, on account of their restlessness and inattention, which indispose them for the minute examination necessary. In the early stage it seemed nearly natural, perhaps increased; towards the end of the disease it became obtuse. The contraction of the muscles is of usual occurrence in softening of the nervous centres; it extended to all those which are supplied with spinal nerves, but did not exist in those of the face, nor of the respiration. As soon as the disease extended to the nerves of respiration, the patient died suffocated. It should be observed, that the intelligence which chanced to be unusually developed, was not in the least impaired during the course of the disease, nor was there much evidence of suffering, except when the muscular contraction was forcibly removed.

The cause of the softening was unknown; the child could ascribe it to none; it is probable that it was not of an accidental nature, for her sister was afterwards admitted with symptoms identical to those of our patient, but of much longer duration, and not terminated

when she left the hospital. There was also a strong tendency in the other children to convulsive diseases. Besides the sister, who probably died, two other children were admitted into the hospital during the same year, (1833,) with contraction of the muscles and partial paralysis; these cases were regarded as examples of a similar affection of the spine.

At the entrance of the patient, there was scarcely a chance of saving her by any mode of treatment. The method adopted was not of the active kind preferred in England and in this country. The treatment of diseases regarded as incurable is extremely simple in the French hospitals; it is limited to such palliative means as do not aggravate the suffering of the patient. The method pursued in this case was in accordance with the more common usage, and was, therefore, merely directed to obviate some unpleasant symptoms.

I have given nearly all the cases of cerebral disease, (excepting insanity,) which terminated fatally during the last eighteen months of my residence at the Pennsylvania Hospital. The remaining cases are two in number. One was meningeal apoplexy, occurring in an insane patient, and offering some anatomical interest; the second case presented cerebral symptoms, without appreciable lesion of the brain. The limit of this article will prevent the publication of either of these cases.

A number of cases of paralysis were admitted and discharged from the hospital. Some were cured, others relieved, but in several cases no amelioration occurred. Three of these cases, which offered no distortion of the countenance, or lesion of the cerebral functions, probably depended on an affection of the spinal marrow. The others were ordinary cases of hemiplegia, dependent upon cerebral apoplexy. The treatment pursued is so universally adopted, that it is unnecessary to repeat it. The strychnia was used in eight cases; in two of the eight its use was discontinued before any appreciable effect was produced. In the six others, severe spasms most strongly felt in the paralyzed limbs, obliged us to suspend the medicine from time to time. Much suffering was caused by the spasms, which were generally accompanied by a sensation of constriction and uneasiness at the epigastrium. The dose at which the strychnia was given, was one-eighth of a grain three times daily; the pure crystallized strychnia always acted with great energy at that dose; but the impure medicine at first used in the hospital, produced no appreciable effect until the quantity given was a grain to a grain and a half, thrice daily. The preparation selected, should always be the crystallized strychnia, and the commencing dose a twelfth of a grain.

ART. II. *Reports of Five Cases of Ununited Fractures Treated in the Pennsylvania Hospital, with Observations.* By T. S. KIRKBRIDE, M. D. Late Resident Physician.

CASE I. *Ununited Fracture of the Femur, near its middle—Excision of the Ends of the Bone—Cure.*—John M'C. æt. 26, was admitted into the Pennsylvania Hospital on the 30th of February, 1833. He was a native of Ireland, and had been nearly five years in this country; had generally enjoyed good health, though much afflicted with intermittent fever for some months after his arrival. In 1828 he had two or three of his ribs broken, and in 1830 an arm, all of which united in the usual period. On the 6th of July, 1832, he was crushed by the falling of a bank of earth, six and a half feet high, which fractured both thighs, near their middle—the right leg just below the knee and the right patella. There was in addition, an extensive wound of the perineum. A bandage was applied to each limb; splints not more than a foot long to each thigh, and the injured leg merely kept at rest upon pillows. The limbs were examined at the end of three weeks, and the same dressings reëplied and suffered to remain till the 1st of November. When removed, the left femur was found to have united with great deformity, the ends of the bone overlapping, and the limb shortened two inches—the patella and the tibia were also firm, but no union in the right femur.

Despairing of relief from the treatment adopted, he entered the hospital as above. The right limb was then one inch shorter than the left—the fragments of bone were moveable, and were not in contact, a large portion of callus had been thrown out about the seat of injury, and appeared to prevent their approximation, and rendered the deformity very striking. His knee had scarce any motion in it at the time of his admission. Up to this period he had been constantly in bed, and although he had suffered materially from his long confinement, his health was then tolerably good.

The operation was performed by Dr. T. HARRIS, under whose care he was admitted, assisted by the medical officers of the house, and in presence of a large number of physicians and students, on the 23d of March. After making the proper incisions, and fully exposing the part, it was found necessary to remove a large portion of new bone, that had been deposited in the part, and which added materially to the difficulty of the operation; this done—the end of each fragment was excised by means of the chain saw, and the two ends were then readily brought into apposition—the edges of the wound

were approximated, the limb placed in Hartshorne's modification of Boyer's splints for fracture of the femur, and the parts covered with a poultice. The operation was tedious and painful, but was borne admirably by the patient. The same apparatus was employed three months, and afterwards a piece of firm pasteboard, moistened and moulded upon the sound limb, so as to include all the upper portion of the thigh, was applied, and which being well padded, answered a very good purpose in keeping the parts at rest. The ulceration had entirely healed by the 1st of November. Early in December there was an appreciable stiffening in the limb; soon after he was directed to leave his bed, and commenced walking with crutches, the thigh being protected by the splint. From this time his health improved constantly, and the firmness of the limb increased slowly, but steadily, so that by the 1st of May, 1834, he was discharged for the purpose of going into the country. During the progress of the cure, he had eight or nine attacks of erysipelas, some of them attended with much fever and constitutional disturbance. No bone was ever discharged from the wound.

September 12th, 1834.—The patient called at the hospital to-day. He enjoys good health; has regained his flesh and strength; his limb feels perfectly firm, but less strong than the other; he only uses a cane in walking. A cork sole, one inch high, makes the length of the two limbs correspond; there is rather more motion of the knee than when he left the hospital; he has had but one slight attack of erysipelas since that time.

CASE II. Ununited Fracture of both bones of the Forearm—Excision of the ends of the bones, with partial Success—Subsequent Formation of the same state of Parts—Application of the Seton—Perfect Recovery.—Soloman M'D. æt. 24, was admitted into the hospital on the 14th of April, 1833. He is a shoemaker, and generally healthy. He gives the following history of his case. In August, 1832, he was engaged about a water-wheel in the interior of Pennsylvania, and by its unexpected starting both forearms were fractured in two or three places; in the left, the middle fracture was a compound one, the bones projecting through his coat more than an inch. The right arm was retained in splints during two months; union took place, and it gradually regained its strength. Splints were never applied to the left, but it was kept at rest upon a pillow for nearly six months, while various measures were resorted to, to remove the inflammation, &c. At this period he commenced walking; the upper and lower fractures had united with considerable deformity, but in the middle one no union had taken place; the wound was nearly healed; several

spiculæ of bone had been discharged, but no large fragments. Upon his admission, he had nearly recovered his health, and had walked a distance of one hundred and fifty miles; his arm was useless; the line of direction, both of the radius and ulna, was so much altered, and the fragments had passed each other so far, that neither friction nor the seton could be resorted to. The operation of Mr. White was, therefore, performed by Dr. T. Harris on the 24th of April; the ends of both bones were turned out and excised, so that upon replacing them, they were accurately in apposition. The callus thrown out between the bones, and in some measure uniting them, rendered the operation rather tedious and painful.

The arm was kept in a carved splint, and the patient directed to take exercise in the open air. Occasionally from an increase in the inflammation about the parts, or from attacks of erysipelas, it was necessary to remove all dressings from the arm, and merely keep it quiet upon a pillow. The operation would probably have been entirely successful, had not the patient become dissatisfied, and insisted upon being discharged from the hospital on the 13th of November.

Seven or eight weeks before this, the ulna had united perfectly, so that he was able to raise his arm; the ends of the radius were in contact, and pressure or the application of caustic, which was contemplated, would have been likely to have produced an union.

After leaving the house, he was employed as a drover, still keeping on the splints which he had used in the hospital. Early in July, 1834, he fell from a fence, breaking up the newly-formed callus, and suffered much pain for some time afterwards. On the 29th of October, he was again admitted into the hospital, the portions of the radius and ulna perfectly moveable, and appearing to have their ends rounded off, from the motion to which they had been subjected. As the fragments now corresponded with each other, it was determined to employ the seton, and accordingly a portion of a skein of silk was introduced between each of the ununited fractures by Dr. Harris, on the 2d of November.

November 6th.—The patient suffered much pain after the operation, and had fever; he is now comfortable, and pus is discharging from the wound; he had indications of erysipelas on the 4th, which were promptly removed by the application of forty leeches.

December 18th.—Some stiffening of the radius, none in the ulna; the ulceration is diminishing; he carries his arm in a tin box, and enjoys tolerable health.

January 8th, 1835.—Some difficulty was experienced in keeping

the ends of the ulna in apposition, this however was remedied by the use of compresses and a roller; there is now no disposition to displacement, and evident stiffening in the ulna, as well as in the radius.

19th. The patient's health has not been good for two weeks past; he has a pallid appearance, and complains of loss of strength; he has had but little appetite; coughs and has diarrhœa; the bones have not become any firmer since his indisposition. He has been upon a good diet, and allowed porter.

24th. The diarrhœa has been relieved; he uses a milk and farinaceous diet, and mild tonics; still has cough.

30th. The patient had an attack of hæmoptysis yesterday, preceded by a sensation of fullness in the chest, and an unusually troublesome hacking cough. He lost half a pint of blood, and is now much prostrated; pulse feeble; skin cool; some cough; pallid, anxious countenance. Dry cups have been repeatedly applied to the chest, and he uses a solution of morphia, *pro re nata*.

February 6th.—Much better; less cough; no uneasiness in the chest; pulse stronger; the radius appears less firm than it did two weeks ago.

After the date of the last report, the patient had another attack of hæmoptysis, and was once or twice troubled with diarrhœa; from these, however, he soon recovered, and although he had lost much flesh and strength, his appetite returned, the bones became more firm, and on the 27th of May he was sent to the country. Both bones had united, and for many days he had ceased to wear splints of any kind. The last seton was removed nearly three weeks before he was discharged.

CASE III. *Ununited fracture of the Humerus near its neck—Cure by the Seton*.—John E. æt. 24, mill-wright, from Chester County, was admitted into the hospital with an ununited fracture of the right humerus, on the 10th of May, 1834. He gave the following history of his case:—On the 25th of February, 1833, he was thrown from the top of a car on the Little Schuylkill Rail Road, by coming in contact with a bridge, under which the carriage was passing. His right humerus was fractured obliquely, just below the head of the bone, and both bones of the forearm, midway between the wrist and elbow; splints were placed upon the arm, and it secured to the body by means of a roller; the forearm he carried in a box padded with cotton. In two months he was able to use the forearm. The splints were kept upon the arm for six months; they were then removed, as the fracture was supposed to have united. He was never able to use it, however, and in January, 1834, met with a person, who discover-

ing that he had ununited fracture, proposed the use of a seton, which was accordingly tried, but finding no union at the end of eight weeks it was removed. Nothing further was done till he entered the hospital.

From an examination of the cicatrices upon the arm, it was evident that the seton had been merely passed under the integuments, and at least an inch below the edges of the separated bone.

The patient is robust, and has always enjoyed good health; he drinks moderately when at work; upon his admission he was unable to use the arm; the fragments were easily moved in different directions, and appeared to have a connexion purely ligamentous. The operation was performed by Dr. T. Harris on the 17th of May. After making an incision down to the part, he used a strong-pointed steel instrument, with a firm handle, for perforating the ligament, and then passed a portion of a skein of silk between the fragments, by means of a long seton needle. The operation was speedily done, and no difficulty occurred except in securing one or two vessels at the bottom of the outer incision.

18th. There was considerable oozing of blood from the wound last evening; none to-day; has some pain and fever; bowels not open. R. Magnes. sulph. \bar{z} ss.

22d. Doing well; no fever and but little pain; suppuration has commenced, and the seton is moved daily; appetite not good; bowels regular. Poultice continued to the arm.

23d. Had a chill last evening, followed by fever and nausea, and was directed to take mass. ex. hyd. gr. v., to be followed by a Seidlitz powder in the morning. To-day has erysipelas in the arm; pulse quick; skin warm; tongue furred. R. Mist. neutral, \bar{z} ss. q. 2 h. Cold mucilage to the inflamed skin.

24th. Erysipelas extending; fever and coated tongue; bowels freely open yesterday. Fifty leeches to be applied, and a line drawn above and below the erysipelas, with argent. nitrat. with a view of arresting its progress. R. Mass. ex. hyd. gr. iij. every night.

25th. The inflammation has not extended beyond the line of caustic; a vessel, deep in the wound, commenced bleeding to-day, and he lost half a pint of blood before it was discovered; it was arrested by pressure applied on both sides of the arm, which of course required a suspension of the local applications.

27th. Compresses removed, to allow the escape of matter from the outer side of the arm. No hæmorrhage; the erysipelas has extended beyond the mark of the caustic, both above and below; pulse is 80, rather weak; tongue disposed to clean; skin cool; bowels open

yesterday. No appetite. R. Pil. quin. sulph. gr. j. four times a day; improved diet. Continue mucilage.

31st. There has been some extension of the erysipelas since last report, but the patient is better in every other respect. Continue treatment.

June 4th.—Walking about the wards; improved appetite and strength; the redness, &c. of the skin, has entirely disappeared. Seton moved daily—free discharge of pus.

28th. There is evidently some stiffening at the seat of fracture, as the head of the bone can now be moved by taking hold of the lower fragment. The arm to be surrounded by four firm splints.

August 3d.—Seton removed. There is a large deposite of bony matter on the internal side of the humerus, at the point through which the seton was passed.

September 15th.—The splints were removed entirely on the 5th instant; the bone appears perfectly firm, and he is daily regaining the use of the muscles, which had become very imperfect from long inaction. The deltoid had wasted very much before he entered the hospital, and the motions depending upon it are consequently still very defective.

October 29th.—Discharged—his arm is strong, and all the muscles act properly, excepting the deltoid, in which there is only a moderate degree of improvement.

CASE. IV. *Ununited Fracture of the bones of the Leg, removal of a portion of the shaft of the Fibula, and excision of the points of the other fragments—Cure.*—Felix L. æt. 30, labourer, was admitted into the hospital on the 1st of August, 1834, with ununited fracture of the bones of the leg. He has been in this country six years, and has always enjoyed good health, except for a few months after his arrival in America. His habits are reported as temperate. On the 24th of July, 1833, he was injured by the upsetting of a cart, which was thrown upon his left leg, producing a compound fracture of both bones, the external wound being so large as to allow one of the fragments of the tibia to project nearly an inch.

The limb was kept in splints for five months. Extensive ulceration took place,—portions of the tibia exfoliated, but no union occurred, for reasons that will be noticed presently. His limb was shortened, and at times painful; the ulceration had healed—he was able to walk only with crutches, and under these circumstances came to the city for relief, and placed himself under the care of Dr. J. R. BARTON.

From this history, and the appearance of the parts upon his admission, it appeared that the fracture of the tibia had occurred, two

inches and a half above its lower point—that the fracture had been oblique, and that a considerable portion of bone had exfoliated—that the fracture in the fibula was also very oblique, and just above that part which enters into the composition of the joint; after the accident the upper fragment of the fibula had slipped down upon the outer side of the lower, so as to resemble on a superficial inspection, the external malleolus; and in this situation a firm ligamentous union had taken place before the process of exfoliation was completed in the tibia, the fragments of which were thus kept so widely separated, that nature was unable to repair the injury by a deposite of osseous matter.

The application of caustic potash upon the nearest points of the tibia was tried, but without effect, owing to the extent of the intervening space, and no alternative presented but to excise a sufficient portion of the fibula to allow the approximation of the separated fragments. The operation was performed on the 25th of November, and the exposure of the parts confirmed exactly the views which had been previously taken. The tibia was first exposed, and the projecting points of each fragment taken off, so that the opposite surfaces might come fairly into contact. This part of the operation, showed the precise extent of fibula that must be removed to permit this approximation. The ligament connecting the two portions of fibula was next separated, and after removing the point of the lower fragment, the upper was turned out, and one and a half inches taken from its inferior extremity. The different portions of both bones then came accurately into contact with each other. No vessel required a ligature; the parts were neatly adjusted with adhesive plaster and a roller, the limb placed on a pillow in a common fracture-box, and the patient put to bed. The small finger saw* of Dr. B. was used very advantageously in the operation. A poultice was applied to the parts the following morning; the patient had slight fever with loss of appetite, &c. for three or four days, with some swelling and but little pain in the limb.

December 3d.—The swelling has subsided, but he has more pain in the limb; free suppuration; better appetite; limb kept perfectly quiet, and poultices continued; patient has a good diet.

18th. The wounds caused by the operation have nearly healed; a small collection of matter on the outer side of the leg has been opened, the bones are kept in apposition; the patient enjoys good health and suffers but little pain.

January 8th, 1835.—There appears to be some stiffening in the

* See N. A. Med. and Surg. Journ. Vol. III. p. 292.

fibula; a few spicula of bone have been discharged from between the ends of the tibia.

24th. Patient has had an attack of erysipelas of the leg; not extensive, nor attended with much constitutional disturbance.

February 6th.—The fibula has united; no union in the tibia; the ulcerated surfaces are just healing; pasteboard splints applied to the limb.

March 29th.—In the latter part of February, a shoe, with a heel sufficiently high to make the length of the two limbs correspond, was procured for him; the limb was then enclosed in moistened firm pasteboard, which hardening, formed a complete case for the parts, and he was directed to walk and bear as much weight as possible upon the diseased limb, with a view of hastening the deposit of callosus. He is now able to walk about the wards with the assistance of a cane.

He left the hospital on the 11th of April, for the purpose of having the advantage of country air. Up to this time, he gradually gained strength in the limb, and facility in walking; but the union in the tibia was not yet firm. The pasteboard splint had been removed previous to his discharge from the hospital.

August 17th.—This patient remained in the country several weeks, and has since returned to the city. He is attending to his business, and walks without assistance; the parts have been gradually improving since the date of last report; he suffers no pain in the leg, except after unusual exercise; his health is good; he has had no erysipelas or ulceration since he left the hospital.

The stiffness of the ankle-joint and the depression of the great toe, consequences of the original injury and of the treatment necessary for it, are now the most annoying circumstances attending his case. The shortening of the limb, which could not possibly be avoided, is remedied by a very high cork sole to his boot.

CASE V. *Ununited Fracture of the Femur, three inches below the Trochanter Major—Excision of the ends of the bone—Death from Metastatic Abscesses of the Lungs, &c. on the Sixteenth day after the Operation.*—Benjamin W. æt. 24, a native of Berks County, Pennsylvania, and speaking only the German language, was admitted into the Pennsylvania Hospital on the 14th of February, 1835, with an ununited fracture of the right os femoris. He is muscular, but not tall, of dark complexion, and had enjoyed good health for two or three years previous to his receiving the fracture. Before that period, he had been much afflicted with intermittent fever, but he had never been subject to cough or pectoral diseases of any kind, nor had

he ever before had a broken bone. His business was weaving, but for two months before the accident he was employed in digging iron ore in Lehigh county. On the 23d of August, 1832, while thus engaged, he was crushed by the falling of a bank of earth, which, in addition to severe contusions, produced an oblique and comminuted fracture of the femur, with great shortening and deformity of the limb.

For this he underwent a variety of tedious and painful treatment. Long splints were first applied, and removed at the end of six weeks, as union was supposed to be perfect. He commenced walking with crutches, the toes only of the injured limb reaching the ground, and he soon became sensible that the fracture had not united. Violent extension was afterwards made on two or three different occasions, and the limb confined in splints, or some other apparatus for a great many weeks, but all ineffectually; from this protracted confinement his health suffered materially, but after he commenced walking with crutches, and was mostly in the open air, he gradually regained his strength and health.

The operation was performed by Dr. HEWSON, the surgeon in attendance, assisted by his colleagues, and in the presence of the medical class, on the 4th of March. From the high situation of the fracture, and its great depth, the external incisions were necessarily several inches in extent. The comminuted state of the bone, and the large quantity of callus that had been thrown out by nature in her efforts to remedy the effects of the accident, rendered the operation tedious, peculiarly difficult, and somewhat hazardous from its extent, and the proximity of some of the fragments to the large vessels of the thigh. By great care, however, and the judicious employment of the chain saw and other instruments, that had been prepared expressly for the occasion, all the projecting points, which prevented the approximation of the parts, were removed, and the two fragments brought fairly and firmly into apposition.

The integuments were approximated by means of the interrupted suture, adhesive plaster and bandages, except at the lower part, where the lint protruded which had been introduced into the bottom of the wound, to secure a free passage for the discharges in the most depending position. The limb was laid on pillows, supported by a double inclined plane, and the patient put to bed.

The patient underwent this protracted and painful operation with great fortitude, and was cheerful when placed in bed; the quantity of blood lost was not large; he perspired moderately, and although

he slept but little, expressed himself as having passed a comfortable night.

The bone being thus brought into the desired position, it became an object of great importance to have an apparatus contrived, by which, at any time, the parts could be inspected, and the dressings applied without disturbing the fragments. This was in a few days effected, by means of firm, but small splints on the inner and outer side of the thigh, connected to others of the proper angle, passing down the leg and attached to a foot-board, with a firm band around the pelvis, and a broad moveable support, (all properly padded,) upon the under side, and corresponding to the seat of the wound.

On the morning following the operation, his pulse was a little quickened; skin warm; tongue moist, slightly furred; patient in good spirits. He was directed to take mist. neut. \bar{z} ss. with antim. tart. gr. one twelfth, every two hours. Upon removing the dressings, the parts presented a favourable appearance; a large portion of the integuments had united by adhesive inflammation, and at the lower part, where the lint had been placed, healthy pus was secreted. No inflammation of the surrounding parts; his pulse was slow and soft, 70; skin perfectly natural; had a good appetite; was gratified with the result of the operation, and appeared to be doing well in every respect till the evening of the 15th, when, after passing a rather restless day, he had rigors, followed by a little fever and sweat. The next evening he had another chill, and then perspired profusely; the skin and conjunctiva presented a yellowish appearance; pulse rather feeble, and near 150; tongue a little coated; the pus discharged from the wound less healthy. The patient's diet had been improved after the subsidence of the fever.

18th. The patient has had several rigors at irregular intervals since last report, followed by some heat of surface and copious sweats. The jaundice has increased very much, his tongue is clammy, darkish in the centre, and inclined to dryness; no appetite for the last three days; respiration short and frequent; slight cough; hawking and spitting frequently; no pain in the chest, but dryness of the throat; pressure upon the limb gives some pain, but none exists at other times; some tenderness upon pressing the abdomen firmly, but not particularly on either side; he is unable to sleep at night, and if he does, has unpleasant dreams; great dejection of spirits since the occurrence of the unfavourable symptoms. His bowels are kept open by means of enemata; discharges of a brownish colour. The granulations of the wound are pale and flabby, the discharge is copious, has a yellow

hue similar to that of the skin, and oily globules in considerable number are noticed in it. His pulse is 112, soft, weak; skin generally moist, and feels unpleasant; he has no inclination to eat. He is continued upon a liberal diet, with wine or porter. Quin. sulph. gr. j. ter die. Acid. sulph. dilut. gtt. xx. ter die.

20th. Restless; slightly delirious at times; sleeps but little; respiration high and hurried, 50; slight increase of cough; last evening and to-day he has the rusty-coloured, tenacious sputa of pneumonia; dullness on percussion; skin universally of a deep saffron hue; tongue more moist, with a brownish coat; teeth covered with dark mucus; pulse 120, feeble, some of the beats scarce perceptible; urine high-coloured, it and the perspiration staining his linen yellow; some pain in the abdomen, and at times retching; some tympanitis; countenance contracted, with an exceedingly anxious expression. The granulations are flabby, and of a darkish yellow colour; the discharge thin, and deeply impregnated with the same hue; for the last two or three days he has been able to take wine or porter only. R. Pulv. rhei. gr. xv. Aquæ camphor. ℥ss. M.—To be followed by an enema, with ol. terebinth. Milk punch. &c.

The patient's pulse gradually sank; his respiration became more oppressed; increase of tympanitis; delirium; features contracted; skin cool and clammy; indistinctness of pulse. Death at 6½, P. M.

Autopsy, twenty-one hours after death.—*Exterior.* Rigidity; skin of a deep saffron colour; moderate emaciation; the parts of the wound united by adhesive inflammation had separated, and the ulcerated surface presented a dark, flabby appearance; the two portions of the femur were in apposition; the cup-like cavity that was forming as a substitute for the joint, was about two and a half inches in diameter, and half an inch deep, irregular at its margins, covered with cartilage, and was three inches below the upper part of the trochanter major. Along the lower fragment an abscess extended to within two and a half inches of the knee; in nearly the whole of this extent the bone was denuded of periosteum, rough, and partially surrounded by pus. Three small pieces of detached bone were discovered. No pus was found in the veins, which contained dirty brownish liquid and coagulated blood.

Head.—Longitudinal sinus empty; glands of pacchioni visible; dura mater presenting the same yellow appearance as noticed in many of the other organs. Arachnoid moist, smooth; pia mater pale; cerebrum pale, moist and of beautiful consistence, not dotted: cerebellum and central parts pale, firm. One ounce of serum in the ventricles.

Thorax.—Left side, no adhesions; the cavity contained half a

pint of sero-purulent fluid of a yellowish colour; on the costal and pulmonary surface of the pleura, was a deposite of yellow lymph; in the inferior part of the consistence of false membrane. On the right side were adhesions at the superior and anterior part, in a small portion of its extent; the same false membrane on the surface, and six ounces of a puruloid fluid in the cavity. On the *surface* of the lower lobe of both lungs, were numerous rounded elevations, the largest, half the size of a walnut, and some of them presenting a yellowish tinge. The lung being cut into, showed these elevations to be the surface of numerous rounded masses—the largest being the size of a walnut, but generally that of peas or hazel-nuts; harder than the surrounding tissue, which was infiltrated with black blood and denser than usual. These masses presented various appearances; some of them were of a brownish aspect, resembling the liver, others darker in their colour, and of a gangrenous odour; some had yellowish points scattered through their substance, and others were almost entirely converted into a purulent liquid; false membrane not visible in the first, slightly so in the next, and very distinct in those containing pus. In the posterior part of the upper lobe there existed some of these collections, but none anteriorly.

Bronchi reddish, but not thickened. *Heart* medium size, coagula in both ventricles; valves healthy; half an ounce of serum in the pericardium.

Liver medium size, of a dirty, brownish lead colour; no trace of purulent deposite. *Gall-bladder* contained about one drachm of dark bile, of the consistence of tar; the ductus communis very much contracted, so that a common probe could not be passed through without difficulty; previous to which, no bile could be pressed through it into the intestine. The yellow tinge of the skin and secretions was noticed in nearly every part except the brain.

Stomach contained nearly a pint of fluid; on the posterior part the mucous membrane was of a dirty white colour, and softened, with a distinct line of demarcation; in the other parts mammillated, of good consistence; strips from eight to ten lines.

Small intestine contained mucus only, the membrane, whitish and of good consistence. Glands of Peyer developed. Isolated follicles visible.

Large intestine.—Membrane pale and of good consistence. *Spleen* double the usual size, and a little softened. *Kidneys* of a yellowish tinge throughout, smooth externally, *Bladder* contained two ounces of urine, which had tinged its membrane yellow.

Observations.—The five cases of ununited fracture included in this

report, are interesting, as illustrative of the resources of our art, in a class of cases so distressing to the subjects of them, as to have formerly claimed not only a recommendation of the terrible alternative of amputation, but the frequent performance of the operation. They are interesting also as offering a variety in the bones affected, and in the measures resorted to for their cures. They were the effect, too, of several of the various causes which may prevent the union of bones at the usual period; these causes may be briefly referred either to some constitutional defect, to the presence of debilitating diseases, or actual prostration; or, to what probably is more frequently the case, to circumstances preventing the application of a proper apparatus to restrain motion and to keep the parts accurately in apposition. The too early use of a limb thus injured, no doubt, frequently breaks up the newly-formed callus, and by constant friction rounds off the ends of the fragments so as to produce what is called an artificial joint, although generally possessing but few of the characters of a perfect articulation. Certain it is that cases of this class are not at all unusual.

The first of the cases, was a healthy labourer, having an ununited fracture of the femur just above its middle, of nearly eight months standing, and we have every reason to believe, the result of the treatment that had been employed; his perfect recovery in his three or four previous fractures, and the cures that took place in the tibia, the patella, and the left femur, after the occurrence of this complicated accident, would certainly seem to indicate, that nothing was wanting in his constitution to effect the union of fractured bones. Even if it were possible that any circumstances could justify the application of such an apparatus to a fracture of any bone of the lower extremities, we could not expect that the parts would be kept in apposition, or a great degree of motion prevented; the deformity of the left femur, shows this to have been the case, and the want of proper splints no doubt produced the result, for which he cheerfully submitted to the formidable operation of excision of the ends of the bones.

This operation, originally proposed by Mr. White, is, in the thigh, particularly, of so painful a character, and involving so much risk to the patient, that it should only be resorted to when all other modes of treatment are believed to be inapplicable. It was only after full consideration and an entire conviction, that it alone would be successful, that it was undertaken in the present instance. The position of the fragments, the deposit of callus, and the limb affected, were barriers to a trial of the seton, friction or pressure. During the treatment, his repeated attacks of erysipelas were exceedingly distressing, and ap-

peared to protract the cure, which although complete, was only effected at the end of thirteen months.

Erysipelas has been an attendant on every case of operation for un-united fracture that we have seen, with one exception, and that one survived only a short period. The same fact is noticed in many of the reports of similar cases.

This patient also presented an exemplification of the danger there is of destroying the joints of a fractured limb, that requires a very protracted confinement; the knee, ankle, and several of the toes were almost ankylosed when he entered the hospital.

The second case originated from a very severe and complicated injury; and although the other fractures in the same arm united, yet the deformity was so great, and the line of direction of the fragments concerned in the middle injury so thoroughly changed, that they were not likely to be in apposition; add to this, the profuse suppuration, and the exfoliation of bone, and we have enough to account for the non-union in this case. Here too, no alternative presented, than to excise the ends of the bones, for the arm occupying the position it then did, would have been nearly useless; the ends of the bones were not near enough for the seton or friction to act efficaciously.

Entire success would no doubt have attended the first operation, had the patient continued in the hospital; the ulna had united nearly two months before he was discharged, and the fragments of the radius were so well in apposition, that the use of caustic, or the application of pressure, as recommended by Mr. AMESBURY, would probably have effected a cure.

Nearly six months after he left the house, he received the fall which broke up the newly-formed connexion in the ulna, (the radius had not yet united,) the parts rubbing upon each other, their extremities were rounded off; and upon his reädmision, upwards of three months after this second fracture, there was not the least disposition to union. The fragments could now, however, be kept in the same line, and it was determined to resort to the operation, for which the world is indebted to the genius of the chief of American Surgery.

A seton was passed between each fracture, and in six weeks a stiffening was observed in the radius, and two or three weeks later in the ulna.

This patient was of an indolent indisposition; took little exercise, and spent most of his time in the wards; from this want of the active life, and the pure air to which he had been accustomed in the country, his health failed him rapidly, and at one time fears were entertained for his recovery. During this period of enfeebled health, there

was rather a diminution than increase in the firmness of the callus. When his health improved, the process was immediately renewed. But for this indisposition, there was every reason to believe the cure would have been a speedy one. The hospital air disagreed with the patient so obviously, that immediately after his discharge, he went to the country; and we have since heard indirectly, that he has recovered his health; that his arm is strong, and he following his occupation. He was less troubled with erysipelas than the preceding case, although he had several slight attacks. The application of leeches in one instance, arrested the inflammation promptly; in many cases they are strikingly beneficial, but often fail to produce any good effect.

The third case occurred in a stout healthy man, and was of more than a year's standing when he entered the hospital. The person who had previously attempted a cure must have been lamentably ignorant of the principle of the operation he was proposing, and but little schooled in the virtue of perseverance. The ligamentous connexion prevented a trial of friction, the oldest of the means of cure, and a successful case of which may be found in a previous report.* The operation of Dr. PHYSICK was here strongly indicated, and Dr. Harris had provided for the difficulty of perforating the strong connecting ligament, by procuring the perforator that was used before passing the seton.

In less than six weeks, there was an increase in the strength of the arm; in five more the seton was removed, and in another month the bone was perfectly firm. This patient's attack of erysipelas was a severe one; neither leeches to the part, nor the application of caustic to the sound skin, had any effect in arresting its progress. The solidification of the bone appeared to be hastened by this attack; if so, it may have acted upon the same principle as blisters, which were formerly recommended for the purpose. We recollect a case of fractured femur in the hospital, in which the actual cautery was applied over the seat of fracture, to hasten the deposite of callus, and in which, although great inflammation was produced by the remedy, the bone soon after became firm.

In the fourth case, during the process of exfoliation in the tibia, the upper fragment of the fibula, which had slipped down upon the lower, became united to it by *ligament*, and thus separated the fragments of the former so much, that nothing short of the removal of a considerable portion of the shaft of the fibula, could put the parts in a position to favour their union. This being done, the fibula had be-

* See No. XXX. of this Journal, p. 345.

come firm on the 6th of February, a little more than two months after the operation. The tibia was much slower in its progress to a cure, the ends of it, however, being fairly in apposition, a plan of friction nearly similar to that proposed by Mr. White, was adopted advantageously; the pasteboard moulded to the limb, gave it firmness, and after walking upon it in this way for a little more than a month, he was able to dispense with all artificial support. No inflammation extended to the joint, notwithstanding its proximity to the parts exposed in the operation. This patient too, when admitted, had a stiff ankle and ankylosis of one of the joints of the great toe, with such depression as to be a great annoyance to him.

The last case was one presenting unusual difficulties, from the position of the fracture, high up in a muscular thigh, from the comminuted state of the bone, and the irregular deposit of callus about the part. The extent of the operation, its painful nature, and all the risks attendant upon it, were foreseen, and fully explained to the patient; but the limb was such an inconvenience to him, that he was determined at all hazards, to undergo the sufferings and protracted confinement that must necessarily result from it, under the most favourable circumstances. Until the eleventh day after the operation, every thing went on favourably; during that day he was more restless than usual, and in the evening had rigors, followed by others at irregular intervals; he had marked despondency; anxiety of countenance; quickness of the pulse; slight yellow tinge of the skin, (in a few days converted into a deep saffron colour;) loss of appetite; disturbed respiration; many of the symptoms usually attendant upon the formation of metastatic abscesses.

The case became daily more aggravated; the appearance of the wound and of the discharges more and more unfavourable; remedies had no effect upon the progress of the disease, and he died on the sixteenth day after the operation.

Upon an examination post mortem, both pleural cavities were found to contain a large quantity of sero-purulent fluid, with a deposit of lymph upon their surfaces. In the *lower lobes* of both lungs existed numerous diseased masses, metastatic abscesses in the various stages of their formation; in the posterior part of the upper lobes were a few of these collections, but none whatever anteriorly. No purulent deposit was noticed in the liver. The marked contraction of the ductus communis, amounting almost to obliteration, is interesting as connected with the jaundiced hue that was so strikingly developed.

The development of these abscesses after profuse suppurations and

operations is so frequent, their approach so insidious and unexpected, and their nature when developed in the viscera so totally unmanageable, as to render them objects of deep interest to the surgeon and pathologist.

There is often observed in the Pennsylvania Hospital, as in most large institutions of the kind, an epidemic erysipelas, arising without obvious cause, continuing a longer or shorter period, and then declining as inexplicably as it had commenced. During the spring of 1834, it was so common, that scarce a patient operated on during a period of nearly four months, failed to have his case complicated with one or more attacks, and the cures were much protracted in many instances, although no case proved fatal. But about the time when this operation was performed, instead of erysipelas, there was a marked disposition in the sores and injuries in the house, and the cases received soon after, to take on a sloughing process.

A seaman in the north house with an ulcer of the leg, became exceedingly ill, and the sloughing extended so much, that it was feared amputation would be required.

A man with fracture had slight ulceration of the heel from extension, but not sufficient to be of much moment; sloughing took place to such an extent, as to involve the tendo-achilles, and has since been very tedious in its cure.

In another patient with fractured thigh and ribs, the same diseased action took place in no less than five points, although the utmost care was taken to remove all sources of irritation as soon as discovered.

A boy operated on for necrosis, had sloughing of the integuments about the part.

A girl in the Female Surgical Ward was admitted with inflammation of the cellular tissue under the knee; soon after her entrance sloughing commenced, and recurred twice or three times afterwards to such an extent, that the large vessels were much endangered.

A finger was amputated by one of the surgeons; instead of uniting by adhesive inflammation, as might have been expected, sloughing of the stump occurred so extensively, as to expose a considerable portion of the end of the bone.

Four or five cases of paronychia, with sloughing, came under our notice about the same time; nor did this influence appear confined to the hospital, for many practitioners in the city remarked that they had, at the same period, an unusual number of the latter class of cases under their care.

These facts are mentioned to show the extensive prevalence of

this influence about the time, the case of which we have been speaking, came under treatment.

No cause for this influence could be detected. There is probably no hospital better ventilated, and since the substitution of air furnaces in the cellars for the stoves formerly kept in the wards, the purity of the air and the absence of unpleasant effluvia have been matter of common remark.

Whether any, or what influence was excited by this epidemic predisposition, in producing the melancholy result so different from what had been hoped for, we do not pretend to say, but its occurrence at this time was so striking, as to deserve mention in the record of the case.

September, 1835.

ART. III. *Observations upon the Mortality in Philadelphia under the age of Puberty, showing the Excessive proportion of the Male over the Female Deaths, and the particular Sources from whence it Proceeds.* By G. EMERSON, M. D.

OF the children born in Philadelphia during the ten years included between 1821 and 1830, amounting, according to the returns made to the Board of Health, to 64,642; there were 2,496 more males than females. But notwithstanding the males at birth thus exceed the females about $7\frac{1}{2}$ per cent., a reference to the census of 1830, shows that by the fifth year of childhood, the male excess is reduced to about 5 per cent., and at ten years to only 1 per cent.; and that the reduction still going on, the females between the ages of ten and fifteen, exceed the males about 8 per cent., and between fifteen and twenty, 7.3 per cent.

Here then we find, that during the early stages of life, there are agencies operating to reduce unduly the proportion of the male sex, and to trace out and identify these, forms a highly interesting subject of inquiry. This we were unable to do, when our former calculations upon the subject of infantile mortality were made,* as no distinction of sex existed in the record of deaths occurring under the twentieth year. For the last three years, however, this important designation has been made in the bills of mortality, and we are thus enabled to identify with precision the affections which prove most fatal to the respective sexes during the periods of infancy.

It has commonly been supposed that the greater exposure of males

* For which see American Journal of the Medical Sciences, Vol. I. p. 116, and Vol. IX. p. 17.

to accidents, furnished a sufficient explanation of their greater mortality. But our inquiry shows the fallacy of this reasoning, the deaths reported under the head of casualties constituting but a small proportion of the whole mortality, in which when burns and scalds are included, the female deaths are found to exceed the male. The truth is, that with very few exceptions, all the morbid influences to which the early periods of life are exposed, operate with peculiar fatality among the males, showing unequivocally that the true cause of the disparity resides in some physiological peculiarity.

The following tabular statements exhibit:—

1st. The mortality under the twentieth year, from the most frequent sources, during the years 1832, 1833, and 1834, with the numbers of each sex from each disease, and the ratio in which the deaths of the one exceed those of the other sex.

2d. The numbers of each sex for the respective years.

3d. The periods of infantile life at which the deaths occurred.

DISEASES.	Males.	Females.	Excess.		Ratio of Excess.
			M.	F.	
Consumption - - - - -	153	185		32	17.3 p. ct.
Convulsions - - - - -	433	357	76		17.5
Bowel complaints of all kinds, (excepting } Cholera Maligna) - - - - -	699	597	101		14.5
Small-pox - - - - -	133	114	19		14.3
Scarlet Fever - - - - -	216	220		4	1.8
Croup - - - - -	157	120	37		23.5
Whooping Cough - - - - -	78	80		2	2.5
Bronchitis - - - - -	114	84	30		26.3
Inflammation of the Brain - - - - -	101	67	34		33.6
of the Lungs - - - - -	190	151	39		20.5
of the Bowels - - - - -	134	98	36		26.8
Fevers of all kinds, (Scarlet excepted)	185	141	44		23.7
Dropsy, (general) - - - - -	42	35	7		16.6
of the Head - - - - -	288	258	30		10.4
of the Chest - - - - -	18	26		8	30.07
Casualties - - - - -	15	8	7		46.6
Debility and Decay - - - - -	251	197	54		21.5
Atrophy - - - - -	65	38	27		41.5
Teething - - - - -	17	16	1		5.8
Burns and Scalds - - - - -	26	35		9	25.7
<hr/>					
	3315	2827	542	55	
	2827		55		
Total mortality of both sexes from the above diseases - - - - -	6142		487		

The male mortality exceeds the female in the ratio of 7.94 per cent.

Whole mortality from all diseases for the three years mentioned, under the twentieth year, (still-born deducted,) is males, 4,143—females, 3,541;—male excess, 602=7.69 per cent.

From this it will be seen in what way the excess of males at birth is reduced during the first periods of life, and how it happens that the females at the age of puberty come to outnumber the males in about the same proportion that these exceeded the females at birth.

The diseases which appear particularly obnoxious to the male sex are the following, arranged nearly in the order of their decreasing mortality:—

Inflammation of the brain, inflammation of the bowels, bronchitis, croup, inflammation of the lungs, fevers of all kinds, (except scarlet.) convulsions, general dropsy, dropsy of the head, small pox.

To these sources of mortality may be added those under the head of casualties, with others vaguely designated debility, decay, &c.

The few cases in which the deaths of females predominate, are under the following heads:—

Consumption, dropsy of the chest, scarlet fever, burns and scalds, hooping cough.

To show that the disparity exhibited in the deaths of the sexes is not of accidental occurrence, but one depending almost invariably upon causes operating from year to year, the following statement is subjoined.

Infantile Mortality in Philadelphia in the Years 1832, 1833, and 1834, from the most predominant Causes, with the Numbers of each Sex for the different Years.

DISEASES.	1832.		1833.		1834.	
	Males.	Females.	Males.	Females.	Males.	Females.
Consumption - - - - -	58	74	54	50	41	61
Convulsions - - - - -	160	147	130	96	143	114
Bowel complaints, (Cholera Maligna excepted)	299	235	126	132	267	225
Diarrhœa alone - - - - -	60	53	21	25	33	40
Small-pox - - - - -	8	5	56	52	69	57
Scarlet Fever - - - - -	150	147	30	31	36	42
Croup - - - - -	60	47	50	41	47	32
Hooping Cough - - - - -	26	32	26	26	26	22
Bronchitis - - - - -	40	30	15	11	59	43
Inflammations of all kinds - - - - -	197	139	128	100	160	132
of the Brain - - - - -	34	24	22	14	45	29
of the Lungs - - - - -	83	60	55	35	52	56
of the Bowels - - - - -	54	32	39	40	41	26
Fevers of all kinds, (Scarlet excepted)	86	72	59	42	40	27
Dropsy, (general) - - - - -	60	53	7	4	16	12
of the Head - - - - -	102	78	87	83	99	97
of the Chest - - - - -	10	12	4	6	4	8
Casualties - - - - -	5	6	3	2	7	
Debility and Decay - - - - -	95	70	76	69	80	58
Atrophy - - - - -			11	6	54	32
Teething - - - - -	11	3	3	6	3	7
Burns and Scalds - - - - -	6	10	11	12	9	13

Infantile Deaths in Philadelphia during the Years 1832, 1833, and 1834, from the most Common Sources of Mortality, distributed under the various Periods of Life, from the First to the Twentieth Year.

DISEASES.	Under 1 year.	From 1 to 2 years.	From 3 to 5	From 5 to 10	From 10 to 15	From 15 to 20
Consumption - - - - -	74	48	54	32	26	104
Convulsions - - - - -	550	107	94	24	10	5
Cholera Morbus - - - - -	1	2	6	9	2	3
Maligna - - - - -	4	6	37	42	22	25
Infantum - - - - -	608	266	57	7	2	0
Diarrhœa - - - - -	115	61	32	16	4	4
Dysentery - - - - -	25	24	17	15	6	2
Small-pox - - - - -	82	34	76	30	12	13
Scarlet Fever - - - - -	33	83	205	100	12	3
Croup - - - - -	108	63	85	19	2	0
Hooping Cough - - - - -	81	31	37	8	1	1
Bronchitis - - - - -	104	39	36	16	0	3
Inflammation of the Brain - - - - -	51	36	36	20	13	12
of the Lungs - - - - -	147	82	64	18	7	11
of the Bowels and Stomach - - - - -	103	37	39	21	12	20
Fevers of all kinds, (Puerperal and Scarlet } excepted) - - - - - }	87	44	70	45	39	45
Dropsy, (general) - - - - -	10	7	21	20	7	12
of the Head - - - - -	198	166	116	54	9	3
of the Chest - - - - -	8	4	15	5	6	6
Casualties - - - - -	1	3	6	4	5	4
Debility and Decay - - - - -	329	22	19	6	1	4
Atrophy and Marasmus - - - - -	132	71	32	6	2	3
Teething - - - - -	20	11	2	0	0	0
Burns and Scalds - - - - -	6	14	22	12	7	4
Of other affections - - - - -	2877 665	1261 199	1178 217	529 106	200 57	287 92
Total from all sources - - - - -	3542	1460	1395	635	257	379

ART. IV. *Cases, with Remarks.* By C. A. LEE, M. D. of New York.

CASE I. *Phthisis Pulmonalis—Aphonia—Extreme Emaciation—Total loss of Right Lung—Abrasion of the Mucous Membrane, lining the Larynx and Trachea.*—G. N. aged sixteen, of fair complexion, and scrofulous habit, about two years since, had a severe fall, which stunned him, and he lay for some time insensible. In a few days he was seized with a cough, which continued during life. From the time of attack, he permanently lost his voice.

The emaciation and failure of strength were so gradual, as scarcely to be perceptible. He never suffered or complained of any pain in the chest. For the last year the expectoration was purulent, and for some months before he died, was very copious; appetite continued tolerably good throughout the disease; bowels regular; hectic fever pretty constant; kept the bed for the last four or five months of his life.

Autopsy.—*Exterior.* Body emaciated to the last degree. Right side of the chest more prominent than the left; hollow sound on percussion; on opening the chest the right cavity was found perfectly empty, with the exception of nearly half a pint of purulent matter. The pleura was thickened, and adhered firmly to the ribs. A large portion of the left lung was also removed by ulceration, and the remaining part full of tubercles, in different stages of maturation. No healthy structure could be found in the pulmonary organs. The trachea throughout a large part of its extent, was denuded of its mucous membrane, and where it was not, the mucous surface was softened, and covered with a purulent secretion. The larynx particularly, was deprived of the mucous membrane, and the muscular fibres were soft and flabby. The pericardium contained a more than usual quantity of serum. Other organs healthy.

Remarks.—Cases of aphonia, or loss of voice, are by no means unfrequent. Most cases appear to arise from an inflammatory affection of the mucous membrane, involving the delicate muscular structure concerned in the production of sound. Anatomists describe the lining membrane of the larynx as covering the posterior face of the epiglottis, and when it reaches the thyro-arytenoid ligaments, it is tucked in between the upper and the lower one, so as to form on either side, an oblong pouch, (the ventricle of MORGAGNI,) projecting into the fatty glandular matter on the posterior face of the thyroid cartilage, and having its base resting on the thyro-arytenoid muscle, forming the vocal apparatus. This pouch in the present instance, was entirely obliterated, there remaining no vestige of mucous membrane, or even of muscular structure. This, I believe, will satisfactorily account for the loss of voice.

CASE II. *Black Ramollissement of the Liver—Sudden Death.*—Peter —, a coloured man, æt. 40, night scavenger, of intemperate habits, had been complaining of debility for some time, and disordered bowels. While walking the street he suddenly fell, and in a few minutes expired.

Autopsy.—The heart was preternaturally enlarged, and the left ventricle hypertrophied. The liver was a completely disorganized

mass, resembling exactly coagulated blood, black, and possessing very little consistence. It appeared to be covered by the peritoneum, on rupturing which, a considerable portion in a semi-fluid form escaped. At first, I supposed there was a rupture of the vena porta, but as none could be found, and as there appeared to be a general mollescence of its whole substance, I abandoned this supposition. Other organs healthy.

Remarks.—The pathology of the liver is as yet but very imperfectly understood. I regret that I could not obtain a complete history of the symptoms in the above case, but it is certainly worthy of remark, that the subject was able to work, up to the very time of his death. What was the immediate cause of dissolution I know not. I have been able to find but very few such cases on record. ABERCROMBIE gives one case very similar, which he calls “black ramollissement of the liver.” Neither BAILLEY nor MORGAGNI describe any disease corresponding to the above, although COOKE, in a note, (Vol. II. p. 171,) has the following remark:—“Dr. MARTINEZ has given an instance of this circumstance in a boy, fifteen years of age, who had been afflicted with abdominal pain, diarrhœa, and jaundice. The liver was one-third less than usual, *softened, and reduced to pulp. Its structure somewhat resembled that of the spleen,* but was of a rhubarb colour.” I ought to have mentioned, that in the present instance, the volume of the liver was about one-half the usual size, and no trace of the gall-bladder or biliary ducts could be found. BECLARD alludes to a similar disease, which he calls “gangrene of the liver,” I would refer to LOUIS’ “*Recherches Anatomico-Pathologique,*” (p. 407,) for some judicious observations on ramollissement of the liver. In a case which he describes, (p. 253,) he has the following remark:—“*A l’ouverture du cadavre, le foie fut trouvé double de son volume naturel; la couleur était d’un noir foncé; la substance était comme putrifiée, &c.*” Perhaps none of the French pathologists have investigated the pathology of the liver, with more success than M. GENDRIN, particularly its inflammatory affections. I shall, therefore, quote the following remarks, as connected with the question, whether the appearances I have described were the result of inflammation. “When the hepatic inflammation is violent, in cases where it is attended with great congestion of the vena porta, determined particularly by an intense pneumonia, or by a hypertrophy of the heart, the tumefaction of the liver is considerable; *the organ assumes a deep violet colour, resembling the lees of wine; its consistence is uniformly diminished; it is reduced by the slightest pressure to a violet reddish pulp, like the tissue of a softened spleen, &c.*”

BOISSEAU also, in his *Nosographie Organique*, supports the doctrine, that ramollissement of the liver is, in all cases, the result of acute or chronic inflammation; in the former case being reduced to a soft, black pulp, "in which the fingers will sink by their own weight," and in the latter to a deep bronze colour, of firmer consistence.

ANDRAL, in his *Clinique*, describes many interesting cases of hepatic affection, but none exactly corresponding to the above. He has several cases of "*ramollissement rouge du foie*" and after detailing Observation X. (p. 321,) he observes, that in that case, "though the softening of the liver was most remarkable, yet it was not attended during life by any symptoms which might lead to a supposition of its existence." It should, however, be remarked, that Andral intimates his belief, that though chronic inflammation of the liver may result in ramollissement, yet that in such cases it is of a pale red, brown, or yellowish colour, and its texture is generally indurated instead of softened, which is however at variance with some of the observations of Boisseau. In the case which I have detailed, it is impossible to believe that the appearances were the result of acute inflammation, as the patient had not been confined to his house, and no symptoms had indicated such a disease. If, therefore, it was not the effect of chronic inflammation, to what must we ascribe it? May it be caused by what Mr. HUNTER calls interstitial absorption; thus removing the cellular structure only?

CASE III. *Fractured Spine—Death Five Weeks after the Accident.*—Mr. H. æt. 48, of good constitution, and very temperate habits, fell from a building across a plank, and was removed home in a state of insensibility. I saw him an hour after the accident. Found him in great agony; restlessness and anxiety extreme; complained of great pain at the epigastrium; breathing very laborious and painful; pulse 80, tremulous, irregular, and weak. V. S. $\bar{\zeta}$ iv. Blood appeared thin and red like arterial. Warm fomentations to stomach, and sinapisms to extremities; morphine, grs. ij. and warm brandy toddy. In two hours he felt somewhat relieved, and during the ensuing night he fell asleep.

21st. On examining more closely, I found a projection at about the middle vertebra of the back, and the lower extremities were entirely deprived of sense and motion. Has had no evacuation by stool or urine; senses perfect; drew off a pint of urine by catheter. At 11 o'clock, A. M. had a severe turn of pain at the epigastrium, with great anxiety and heaving of chest; relieved a good deal by morphine. Saline enema produced free evacuations.

22d. Passed a tolerable night. Pulse 75, full, and regular; re-

action fully established. The paralyzed parts are bounded superiorly by a line, extending from the top of the ileum to an inch below the umbilicus, and so round the body; temperature of lower extremities natural; passed catheter; enema; warm fomentations, &c. &c.

It is unnecessary to detail the symptoms from day to day. Paroxysms of pain were frequent, generally relieved by morphine; pulse ranged from 70 to 100; appetite variable, generally poor.

On the 28th, diarrhœa set in, which weakened him very much. Ordered Port wine and arrow root; pill. camphoræ.

From the 28th of August to the 9th of September, his strength gradually failed, and hectic fever regularly came on at evening; pain increased towards morning; urine flowed involuntary, also his fæces; sloughing commenced over the sacrum; passed a probe eight inches in contact with the bone. Quinine and generous diet.

September 13th.—Very feeble; pulse 64; occasionally chills; sleep very disturbed; removed a large slough from over sacrum, smell very offensive; copious discharge of thin purulent matter; borders of ulcer a deep violet colour; body much emaciated; legs more in proportion than the arms; urine contains bloody pus.

16th. Had a chill of several hours duration; stomach began to be very irritable; much heart-burn and cardialgia; takes scarcely any nourishment; voice a whisper. Lime water and milk sets best on his stomach.

19th. Stomach retained nothing for the last forty-eight hours; regular chills every day, lasting from one to four hours; small blotches on different parts of the body. Chloride of lime has to be used freely to correct the offensive smell. Pulse 60, and weak.

From the 19th to 24th, the day of his death, his suffering was extreme; the seat of pain appeared to be the stomach and small intestines. He said his stomach *burned*; pyrosis constant; nothing was retained. For the last week he took little or no nourishment; secretion of urine scanty; extremities cold; mental faculties perfect to the last. Death occurred on the 24th of September, just five weeks from the day of the accident.

Autopsy, twenty-four hours after death.—*Exterior.* Extreme emaciation, particularly of lower extremities; countenance placid; ecchymoses on various parts of the body, particularly the back. The muscles of the spine and back were of a dark red, and in the region of the injury livid. The spinal marrow was exposed for about twelve inches, by separating the oblique processes. The oblique processes of two of the middle dorsal vertebræ were fractured, also the spinous processes, and

the intervertebral substance anteriorly was compressed into a very narrow space. The dura mater and sheath of the medulla spinalis was thickened and much altered in its texture for the space of four or five inches. The spinal marrow itself was reduced to a soft, homogeneous pulpy mass, resembling pus. Below the place of the fracture, the cavity was filled with bloody serum. The veins were distended with blood.

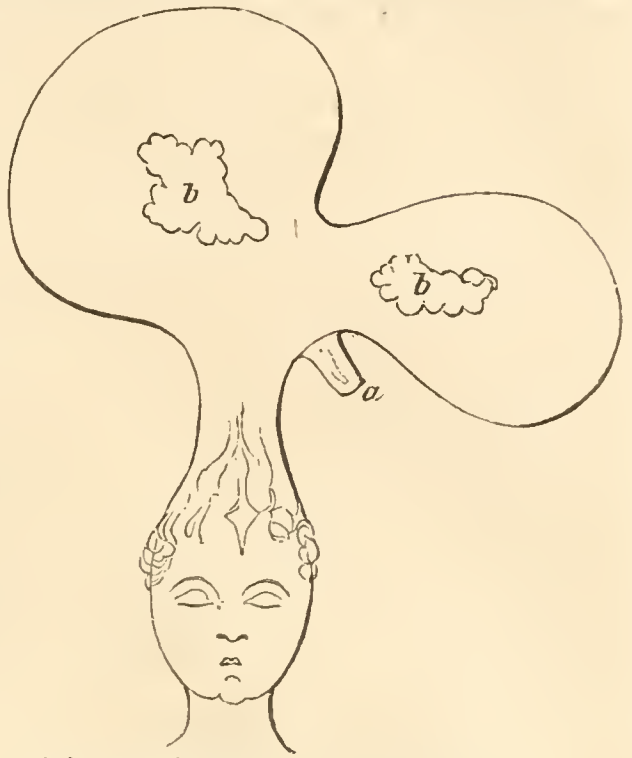
Abdomen.—*Spleen* much congested, and presenting a dark marbled appearance. *Liver* of natural size, and of a pale yellow colour. *Stomach.* The whole mucous membrane of the stomach was of a dark brown colour, and near the pyloric orifice nearly black. It was softened into a pulp, and could easily be scraped off by the fingers. The mucous coat of the small intestines exhibited also a like appearance, except perhaps being of a lighter shade of red. Its texture was so much altered that no follicles could be detected. The deep red colour was as uniform as if it had been painted. The large intestines natural. The bladder was contracted into a hard ball, as in cholera, and contained no urine. Its mucous membrane was considerably injected.

CASE IV. *Pleurisy—Sudden Metastasis to the Leg—Death in forty-eight hours.*—T. T. aged forty, of intemperate habits, was seized on the 26th of March, with severe pain in the left knee, after a hard chill, attended with the other usual symptoms of a highly inflammatory attack. He was bled to $\frac{3}{4}$ xvj. and a cathartic administered. On the 21st I was called in. I found him with great pain through the whole chest and back; difficult breathing; anxious expression of countenance; delirious at times; pulse 100, and tense. V. S. $\frac{3}{4}$ xij. Cathartic rep. episp. to thorax. At evening he complained of a pain in the calf of the right leg.

22d, 7, A. M. Pain in the chest entirely gone, but that in the leg most excruciating; breathing perfectly free; calf of the leg very much swollen, and of a deep red. 3, P. M. The swelling extended from the toes to the middle of the thigh; leg nearly twice the natural size, purple, and ready to burst; bloody serum under the cuticle, which was elevated; delirious; great restlessness and anxiety; sensibility of the leg entirely gone; cold to the feet. Made several incisions, which discharged a little, thick, tarry-looking blood; pulse very small and frequent; episp. to leg; quinine, wine, ammoniæ. Died at 10 o'clock, P. M. Strength held out to nearly the last. Permission could not be obtained to examine the body.

CASE V. *Monstrosity—Fœtus Born at the Full Period—Lived but a few minutes.*—The

face was not more than half the size of that of a full grown fœtus, but the body was of the natural bigness. One of the feet was clubbed. From the vertex of the head, a membranous neck, connected with two enormous pouches, extended about three inches in length, and was covered externally by the scalp. The right protuberance, which was the smallest, was about twice the size of the head, soft to the feel, and covered with a skin-



Relative proportion exact.

a. A bony protuberance, with a secreting surface.

b. b. A white membrane, of a dense, cartilaginous structure.

like expansion, resembling the scalp, except the portion marked b. which was nearly of the texture of cartilage. The sac on the left side was about three times the size of the head, and was contained in a beautiful membrane, of a fresh colour, and in its texture resembling the dura mater, but less firm. On opening the right sac it was found filled with a dark semi-fluid mass, like coagulated blood. The base of the tumour resembled brain, only much softened. On the neck a connecting portion of the tumour was a singular formation of bone, covered with skin, and terminating in a mucous secreting surface, of about one inch in diameter. The shape of the bone was irregular, being about three inches in length and two in breadth. Distinct lobuli of brain were found in the largest tumour, traversed by large blood-vessels. One of these lobules contained a small round bone, perfectly insulated, and of a smooth surface. The larger tumour appeared to be invested by the *dura mater*, and in the centre to be of a homogeneous and apparently disorganized mass; portions were found closely resembling the *corpus callosum*, *corpora striata*, and other divisions of the cerebrum proper. The interior of the mass also, on each side, was penetrated by two large, irregular shaped cavities, lined with a soft pulpy membrane, and a mass of vessels, similar to the *choroid plexus*. These cavities com-

nunicated through the neck of the tumour, with the contents of the cranium. The cranium was about one-third the usual size, and the sutures firmly ossified, leaving however an opening at the vertex, communicating with the exterior tumours, of about two inches in diameter. The bones were of unusual thickness, and bore the appearance of powerful compression. Owing to the circumstances under which the dissection was made, no opportunity was allowed of examining the cranial contents or any of the other organs.

ART. V. *Notice of the successful employment of the Colchicum Autumnale in Tetanus, with general observations on the treatment of this Disease in Hayti.* By WILLIAM G. SMITH, M. D. of Port Au Prince.

IN Hayti, as in all warm climates, tetanus prevails to a considerable extent, but it would seem most confined to the natives, as I have never known a case to occur in an European, or any stranger whatever. It also appears, that persons in this country from the age of five years to thirty, or thirty-five, are most predisposed to attacks of this disease. In the course of little more than two years and a half, nine cases of tetanus have fallen under my observation, and the greater number of these were under my own care. Women do not seem to be so susceptible of tetanus in any of its varieties as men; of the nine cases, only one having occurred in a female. Of the nine cases, two were traumatic, and were induced by very slight wounds, the remaining seven were idiopathic, no direct cause being present.

Traumatic Trismus.	{	2 males, under the age of 20, 1 died, 1 cured.
Idiopathic Opisthotonos.	{	3 males, under the age of 30, 1 died, 2 cured.
	{	1 female, under the age of 40, died.
	{	2 males, under the age of 25, cured.
Idiopathic Pleurosthotonos.	{	1 male, aged 15, died.

Total, 9—cured, 5—deaths, 4.

The four last cases of tetanus which have come under my care, were treated with the *Colchicum autumnale*, and three out of the four recovered. The following is the general course I pursue, in the treatment of the disease:—On being called to a case of tetanus, my attention is first turned to the actual state of the bowels; constipa-

tion in this disease is at least a grave symptom, and should be relieved by injections. I prefer some emollient fluid for this purpose, because I believe that in almost all cases, there is conjoined with costiveness, some degree of intestinal irritation. I commence by administering an enema of ℥j. decoction of either flaxseed or the okra, (*Ketmia gombo*,) cum ol. ricini, ℥ij. or ℥iv. for an adult. After this, fifty or sixty leeches are applied to the spine, from the neck to the sacrum; in my particular practice, I have made choice of the scarificators and cupping-glasses, and the result has been most satisfactory. When the muscles of the jaws and neck are effected, as is most usually the case, leeches are also applied to the mastoid processes; the moment the cups or leeches, whichever may have been used, are removed, cloths wrung out of a strong solution of the muriate of ammonia, are constantly applied to the whole of the vertebral column, the back and the neck. Internally I administer the vinus tinct. of colchicum, commencing with ℥ss.; the dose is increased every half hour, and repeated until emesis or catharsis has been produced. As soon as one or other of these effects is obtained, this remedy is to be discontinued; if there afterwards occur any colic or griping, with exhaustion, as in all probability there will, I am in the habit of giving the spt. mindereri ℥ss. every hour, with the addition of one-fourth of a grain of acetate morphine, in solution. If the surface be cold, and there be symptoms of collapse, warm applications are made to the extremities, and the axilla; and the muriated solution is discontinued. The seeds of the colchicum appear more permanent in effect than the bulb; I accordingly make a tincture as follows:—℞. Sem. colch. sicc. ℥ij.; Vin. albi. hisp. ℥j. Infus. &c. as the books recommend.

All the cases of tetanus which have fallen under my care, have been, with two exceptions, treated as above stated, with a very happy result. The exceptions, were the two first cases I treated in this Island, and in which I employed opium, general venesection, terebinth. &c. &c.; the patients were put into a warm bath, but on being taken out of the bath, the spasms became more alarming, the limbs more rigid, and in one instance, death immediately followed. I shall never again treat tetanus, while in the West Indies, as recommended in the books. I was first induced to employ the colchicum for the cure of tetanus from the accounts given by Mr. HADEN, of London, of its good effects in chronic rheumatism, and inflammatory diseases, as well as from previous experience, while resident Physician at the House of Refuge in New York. Dr. IVES, of that city, frequently employed the tincture in rheumatisms, the effect I invariably observed it to produce, led me to believe that the colchicum possessed qualities both

as diaphoretic, diuretic, and actively cathartic, besides being antispasmodic and anodyne. I am now certain that in tetanus, it acts in a manner altogether peculiar. In tetanus there is obstinate constipation, violent spasms, muscular rigidity, with pain, often retention or suppression of urine. Now the colchicum, when genuine, appears to combine in itself sufficient qualities to controul several of these symptoms at once. It, however, does not invariably promote vomiting; this may depend on its genuineness, but it almost invariably acts upon the kidneys, the skin, and the bowels. I conclude this paper with a case of tetanus, in which the tincture of colchicum was successfully employed; the other cases I would give, but my article is already longer than I at first intended it to have been.

CASE. September 29, 1834, 7 o'clock in the evening.—Monsieur Tournour fils. aged twenty-seven, tall and slender, temperament irritable, had been perfectly well until two days after his arrival in Port Au Prince, from a journey of fifty leagues on horseback, over the mountains of Jacmel.

He had travelled night and day, and been obliged to cross several streams of water in his journey. He complained to me of a stiffness and pain felt in the back part of his neck; that he could not turn his head to either side without difficulty and pain; that in eating, his jaws felt fatigued. Pulse regular, from 70 to 75. I thought lightly of his complaining, but believing it might be a torticollis occasioned by exposure and suppressed transpiration, I recommended friction, with a stimulating liniment, and left him. But between five and six hours after, I was called again to my patient, who was represented to have grown worse every hour since I had left him. I went immediately to his room, and found him indeed worse. Stiffness of the muscles of the jaws and neck; pain in the sternum, shooting into the back; head inclined backwards; occasional spasms; pain along the vertebral column; belly somewhat retracted; pulse little affected; skin dry; deglutition slightly impaired. The true nature of his complaint being more fully developed, and even urgent, my patient was immediately put under the treatment, which, in two prior cases, had been successfully employed.

Treatment.—Enema decoct. lini. ℥j.; Ol. ricini, ℥ij.; Scarificators and cupping-glasses to the vertebral column, from the neck to the sacrum; leeches to the mastoid processes. On the cupping-glasses being removed, cloths wrung out of the solution of muriate of ammonia, were constantly applied to the spine, back and neck. Internally the vinus tinct. of colchicum, ℥ss. every half hour in unincreased doses.

30th, 4 o'clock in the morning.—No visible change; has not urinated during sixteen hours; watchfulness. 7 o'clock. Slight nausea; pulse full and compressible; difficult deglutition. *Colchicum* and muriated application continued. Half past 9 o'clock. Pulse full and soft; skin dry and warm; pain in the sternum still present; bowels not moved; body and inferior extremities rigid; spasmodic paroxysm of longer intervals; urine small in quantity, of a paler colour, and depositing a flocculent sediment. *Colchicum* continued in increased doses. 12, P. M. Emesis and catharsis almost synchronous; glow of moisture over the chest and on superior extremities; pulse regular, not full, as in the morning; deglutition unaltered; alvine discharges foetid, of a dark bronze colour. *Colchicum* discontinued. 3 o'clock, P. M. Active catharsis; occasional vomiting of dark bilious matter; pulse regular, a little quickened; spasms at longer intervals; pain in sternum absent. Enema, decoct. of okra without the oil. 5 o'clock. Urine copious, colour and deposit unchanged; profuse perspiration; purging continued of deep bilious matter. Patient said his tongue felt lighter; slight pains in the bowels. Tepid tisane of decoct. *Ketmia gombo*, (okra.) 7 o'clock, (evening.) Pulse full, 65 or 70; profuse sweating; deglutition unembarrassed; nausea; no vomiting; alvine discharges fluid, of healthy bile, less foetid; spasms very feeble, confined to lower extremities, and were excited only when the feet or legs were touched; a tingling sensation felt in the ears. Half past 9 o'clock, (night.) Skin warm; frequency of pulse a little increased; severe tormina immediately before going to stool; nausea; no vomiting; abdomen soft; pain and stiffness of the neck and jaws diminished; mouth dry, thirst. Spt. mindereri, $\frac{3}{4}$ ss. Acet. morph. one-eighth of a grain in solution every hour; increasing the quantity of morphine, while the tormina and griping continued.

September 31st, 6 o'clock, A. M.—Patient said he felt better; had dozed a little during the past night; colic and griping ceased between 3 and 4 o'clock in the morning; no spasms; pulse regular, about 80; belly soft and natural to the touch; skin warm and moist; but two evacuations during the night. Patient complained of deafness, and of a tingling noise in his ears; a heavy languid sensation over the whole body, and as he said, as if he had been beaten with sticks. Spt. mindereri and ammoniacal applications discontinued. Tepid tisane of decoct. okra. Injections of the same, with $\frac{3}{4}$ ij. ol. ricini. 9 o'clock. Patient dozed at intervals; one stool of liquid inoffensive bile; slight colic; skin moist; tongue white and expanded; no spasms; all rigidity of the limbs absent, except about the large joints, particularly the knees; heavy sensation about the neck,

masseter and temporal muscles; deglutition restored. Acet. morph. half a grain in solution. 12 o'clock, P. M. Skin moist; pulse full and regular; had two evacuations from the bowels of a yellow colour; secretions generally reëstablished; great lassitude; hearing restored; no tingling noise in the ears; colic absent. Patient slept one or two hours. 3 o'clock, P. M. Patient laying on his side; tranquil; no stools; pulse regular; tongue white; heavy sensation of the head and neck; skin warm and moist; no spasms; no rigidity of the limbs; general soreness of the body. Drinks freely of okra tisane. 8 o'clock, (evening.) One evacuation of dark colour; severe pains in the bowels, confined to the umbilical region; pulse quick; skin warm and dry; heaviness of the head; tongue unchanged. Leeches applied to the mastoid processes; surface spunged with the solution of the muriate of ammonia. Half past 10 o'clock. Head relieved; skin cool; pulse soft and full; copious urine, of lighter colour and little deposit; no stools; slight nausea and colic. Acet. morph. one-half grain in solution. Enema of decoct. okra.

October 1st, 9 o'clock, P. M.—Pulse regular; skin soft and moist; had a stool towards morning of bilious matter, without odour; slept some part of the night; soreness of all the limbs; tongue yellowish-white colour; all tetanic symptoms absent. Patient complained of malaise, (lassitude,) and of uneasiness, (not pain,) over the whole body. 3 o'clock, P. M. Patient tranquil, and out of danger, but he remained weak and feeble, with little appetite or desire for food; soreness of the limbs and occasional nausea continuing up to this time. The *malaise* or lassitude continued some weeks after I discontinued my visits.

ART. VI. *Remarks on Spinal Irritation, illustrated by Two Cases.*

By JOHN W. MALONE, M. D.

THE fact that spinal tenderness, or irritation primarily or secondarily developed, is the cause of many neuralgic or nervous affections, cannot be doubted; as the practical observations of many of the American physicians, as well as those of the continent of Europe will testify. It has been but a short time since the attention of the profession was first called to this subject, particularly by some original essays from the English practitioners. Since then, the works of TEALE, TATE, and ABERCROMBIE, have appeared before the public,

relating facts obtained by a careful practice and observation, with such candour and simplicity, that the medical world has been excited to ascertain whether locality could be given to what might be termed "general disorders of the nervous system," and a cure effected by the simple application of tartar emetic ointment, or other irritating applications to the spine; and the result of the practice has been a happy confirmation of the remarkable truth, that an intimate and evident relation exists between many of the chronic nervous affections and an irritation of the spinal cord, inducing the anomalous and diversified symptoms of hysteria, and confirming the distressing and painful sensations of chronic rheumatism, &c. This important pathological fact will effect a most important change in the classification of these diseases. The vague and unmeaning names under which they have been placed will be exploded, and instead of being ranked among the "*opprobria medicorum*," their nature will be well understood, their treatment simple and rational, and permanent cures almost always effected.

The following case occurred in my practice last winter.

On the 27th of February last, I visited a negro man belonging to Mr. C. of this place, age about thirty, sound constitution, and hitherto of good health. The symptoms were head-ache; severe pain in the right inferior part of the chest, neck, and upper extremities, and general uneasiness of the lower; pulse full and slow; anorexia; skin warm and somewhat arid; tongue moist, and coated with a white fur on its posterior part; respiration hurried, together with a dry, hacking cough. Thinking it might be an incipient pleuritis, as he had been sleeping out in a cold, damp atmosphere, I bled him, which relieved the pain in the head, but not in the side. Ordered *ol. ricini*, $\mathfrak{z}\mathfrak{j}$. and left a diaphoretic to be given at bedtime, together with warm foot-bath.

28th. Slept badly the preceding night; slight uneasiness in the head; still pain in the side and extremities; pulse natural; natural warmth of the skin; tongue moist and furred. As the oil had not operated, I gave him the following in syrup. *Cal. rhubarb, jalap*, $\mathfrak{a}\mathfrak{a}$. five grains. Ordered rest and abstemious diet. I visited him in the evening; the medicine had operated kindly without any amelioration of the most prominent symptoms. I cupped him on the side, ordered his feet and legs to be bathed, and an anodyne draught at bedtime.

March 1st.—No amendment. Seeing the inefficiency of my remedies, and detecting no disease of any particular character in the abdominal or thoracic viscera, I was induced to believe it seated in

the spinal marrow. I immediately made an examination, and upon pressure along the cervical column, I found two tender spots; upon pursuing the examination, I found another very tender spot about the fifth or sixth dorsal vertebræ, which, upon pressure, increased the pain in the side; there was also tenderness in the lumbar region. I immediately applied small strips of blistering plaster, knowing they would act sooner than the tartar emetic, and with equal benefit. Ordered abstemious diet and the recumbent posture.

2d. Slept well during the night; feels no pain; has appetite, and says he is able to attend to his business.

In this case the involvement of other organs than the one primarily affected is manifestly evident, and the prompt subsidence of the disease on topical applications to the spine is strikingly exemplified; and it now belongs to the future investigations of the profession to establish the fact, whether spinal irritation may not be considered as the source and cause of many of the anomalous and irregular diseased actions of the organism. Chronic functional disorders of the thoracic and abdominal viscera frequently present themselves, of an anomalous or preternatural character, yielding to no general treatment, and eluding our strictest research for their local habitation or focus of irritative action. Many of these cases, we think, may be referred to an irritation of the medulla spinalis, and with great probability the application of remedies to that part would cut short and finally cure many of these disagreeable and chronic complaints. That this is the fact, numerous cases considered incurable, which have been cured by looking to this source and directing our treatment accordingly, abundantly proves. Intractable rheumatism, paralysis of the extremities, chronic uterine complaints, acute nervous pains in the muscles, cramps in the stomach, and chronic ophthalmias, have all yielded speedily and promptly to a few cups, or irritating agents to the spinal column. The functional and organic derangements of the internal organs may, through the sympathetic ganglia which preside over their internal actions, induce irritations of the spinal cord, by the transmission of irritation from the alimentary mucous membrane, or from the ganglia themselves, and render disease permanent and chronic, which will resist the efficacy of all internal remedies, but are readily and promptly counteracted by remedies adequate to remove the secondary development of irritation. That chronic intermittents are often kept up from this circumstance, we entertain no doubt, as the experience of others, and a slight one of our own will testify. My attention was drawn to a case of this kind, which came under my hands in 1832.

CASE II. Mrs. N. a lady of sanguine temperament, age thirty-five, had an attack of bilious remittent fever in the summer, from which she recovered after a confinement of two weeks. She had taken an excessive quantity of calomel, which enervated her system, and left her stomach in a state of subacute inflammation. When I saw her, which was in the fall, she had chills every day, and sometimes every other day. She was very feeble; tongue red, with slightly coloured fur; skin rather flabby; bad appetite and indigestion, for nearly all articles of food soured on her stomach; she had frequent nausea, particularly just before the chill. I gave her the cold infusion of chamomile as a tonic, and opened her bowels with ol. ricini. I saw her again the next day, about an hour before the time of the chill—she was complaining of pain in her back and general aching sensations all over her. After some reflections on her case, I was induced to believe it kept up by spinal irritation secondarily developed. I made an examination, and found the lower part of the neck and upper half of the dorsal column tender in several places. As her chill appeared to be coming on, I applied a large mustard cataplasm between her shoulders, and continued the chamomile infusion in moderate doses. The result of my remedy was the prevention of the chill. She applied the cataplasm once afterwards, and has had no chill since, but has continued to improve, and with gentle tonics and exercise was soon restored to perfect health.

The application of cataplasms to the spine in obstinate intermittents is quite a common thing in the country, and it was from observing their beneficial effects once before, that I was induced to apply them at this time to remove an irritation which *might be developed*, and which frequently, in our opinion, keeps up the disease. From the forgoing considerations, and from many facts which can be adduced, we are inclined to believe that *intermittents* are frequently continued, if not actually induced by spinal irritation; at least it is a subject well worth the consideration of gentlemen of the profession, who wish to advance our divine art, and do good to mankind.

Quincy, Florida, December 8th, 1834.

ART. VII. *On Rupture of the Heart and the Morbid Appearances associated with it.* By EDWARD HALLOWELL, M. D. [Read at the Medical Society of Philadelphia.]

HAVING had, sometime since, an opportunity of seeing a case of rupture of the heart, I have thought that in presenting it to the notice of the society, it might not perhaps be uninteresting to some of the members to give an abstract of what is known respecting that affection.

Spontaneous rupture of the heart is of rare occurrence. Neither CORVISART, LAENNEC, BERTIN, nor SENAC, whose experience in cardiac diseases was very great, met with a single case of it. The number of well-attested observations amounts perhaps to sixty. I have collected thirty-four of them in various publications, with but little research. In the history of these cases, which is often very imperfectly detailed, it is stated that the patients had been affected for a greater or less length of time, with palpitations, and had experienced frequent attacks of lipothymia, or complained of pain beneath the sternum and tightness and weight across the chest, &c. these symptoms being no doubt dependent upon one or more of the morbid conditions to be hereafter noticed. The first intimation of the nature of the disease in question, is the very sudden death of the patient. Death, however, does not always take place suddenly. A case is related by M. ROSTAN, where the patient is said to have lived fifteen years after the accident, and died at last of rupture in another part of the organ. The following were the post mortem appearances in this very extraordinary case. “The pericardium appeared irregular at its surface, and on lifting it up, blood was easily perceived, effused at its posterior part. It was carefully opened, and found adhering to the heart, not immediately, but by means of several albuminous layers more or less dense. In order to ascertain the source of the blood effused in the posterior part, it became necessary to detach them. On arriving at the heart, an irregular rupture was perceived, an inch and a half in length. The fissure was evidently recent, but on its left, in an extent of five or six lines each way, the substance of the heart was destroyed, and replaced by a fibrinous concretion, which appeared to be confounded with the tissue of the organ.”* The period intervening in these exceptional cases, between the occurrence of the rupture and the death of the patient, is generally of very short duration, lasting but a few hours. The laceration, for the most part, is found to be very oblique, and traversed

* Nouveau Journal de Medecine, 1820.

by fibres adhering to both sides of the rupture; the flow of blood being further arrested by the formation of a coagulum or fibrinous concretion, plugging up, as it were, the opening in the ventricle.* A case of this kind is recorded by M. CULLERIER, in the XII. Volume of the *Journal de Médecine*, for September, 1806.

When death occurs instantaneously, which it almost invariably does, (thus differing from apoplexy, where several hours ordinarily intervene between the attack and the death of the patient,) it is in consequence, not of the amount of blood effused, for this frequently does not exceed ten or twelve ounces, but of the pressure exercised upon the organ by the surrounding mass of blood, thus arresting its action, and stopping the supply of blood to the various parts of the system.†

Rupture of the heart seldom occurs but in persons advanced in life. It has been stated, that, with the exception of several cases in children, not well authenticated, all the subjects who died of this terrible disease, were over fifty-eight years of age. To this law, however, if such it be, there must be exceptions. Of the thirty-four cases I have collected, the age is precisely stated in twenty-three only. Of these, nine were between seventy and eighty, six between sixty and seventy, five between fifty and sixty, two between forty and fifty, and one between twenty and thirty, (from dilatation.)

It is said that men are more frequently the victims of this disease than women. It is asserted by M. PIGEAX‡ in a report upon a case of rupture presented to the Anatomical Society of Paris, that the proportion is as ten to one. This is no doubt incorrect. Of the thirty-four cases I have mentioned, there were sixteen males and eighteen females.

* Rostan, *Traité de Diagnostic*, &c. t. II p. 625.

Some curious cases are recorded of prolongation of life after *penetrating* and other *wounds* of the heart. A highly interesting case of this kind is mentioned by Morgagni, in his fifty-third epistle, of a man who was stabbed between the fifth and sixth ribs. The knife penetrated the pericardium and right ventricle, as well as the mediastinum and diaphragm, yet he lived eight days. Those who are curious in such matters, may find a large collection of similar cases, taken from the old authors, in a paper by Professor Coxe, in the eighth number of the *American Journal of the Medical Sciences*. Some of these cases, however, are rather problematical, and require more than an ordinary quantum of faith on the part of the reader; of these, I think, is the one from Bartholinus, of a man who attentively contemplated his own heart after it had been cut from his body, and another of a man who was heard to pronounce several words of prayer after the executioner had his heart in his hand.

† Andral, *Anatomie Pathologique*, tom. II. p. 306.

‡ Bulletin de la Société Anatomique, No. XLIII.

The rupture occurs, for the most part, in the left ventricle, in its anterior wall near its middle. In the above-mentioned cases, the place of rupture is stated in thirty-one. Of these there were three ruptures of the right auricle, none of the left, two of the right ventricle, and the remaining twenty-six of the left ventricle.

Although symptoms of the disease of the heart may have existed for some time in a patient who has died suddenly, rupture of the organ can only be surmised, until the true nature of the case is revealed by a post mortem examination. On removing the sternum and cartilages of the ribs, the pericardium is found greatly distended, elastic to the touch, and presents a bluish appearance, so that before opening it, rupture may be predicted, particularly by one who has seen a similar case. On cutting into the cavity, a beautiful sight is presented. The author of one of the cases, in describing it, says, "The heart was entirely concealed by an envelope of coagulated blood, which presented so imposing an appearance, that I stood for some minutes surveying it before I could proceed with my examination." The blood, sometimes in a partly fluid state, is more frequently coagulated, and of a dark black colour. The coagula are sometimes separable into layers, presenting a foliated appearance, but there is, most commonly, a single clot, varying in weight from four or five to fifteen ounces, or more. The size and form of the rupture vary with the disease producing or accompanying it. In several instances it is stated to have been large enough to admit the little finger. It ordinarily consists in a slit, sometimes so small as to be hardly perceptible, at other times varying from half an inch to an inch or inch and a half in length, and frequently diminishes in size as it approaches the inner surface of the heart. Sometimes there are two external openings, whose tortuous canals at length unite and form a single communication with the cavity of the ventricle. These openings or fissures are generally parallel with the longitudinal axis of the heart, and are sometimes numerous. A case was presented to the Royal Academy of Sciences by M. ANDRAL, in which there were five different perforations in the posterior wall of the left ventricle.

The tissue of the heart, surrounding the place of rupture, will be found in one of the following conditions.

1. In a perfectly healthy state.
2. In a state of ulceration.
3. Hypertrophied with or without ramollissement or softening.
4. Softened to a greater or less extent.
5. Dilated and thinned.

6. To have become the seat of a partial dilatation.

7. To have undergone a fatty degeneration.

Cases of the first kind, or where the muscular parietes are perfectly healthy, must be exceedingly rare. I have stated it upon the authority of Andral, but I confess that I have never met with a *perfectly* satisfactory example.*

Of cases of the second class, or those produced by *ulceration*, numerous examples are recorded. MORAND, in the *Mémoires de l'Académie des Sciences*, for 1732, describes that of the Dutchess of Brunswick, of the same family as George II. of England, who also died of rupture of the heart in the act of defecation. On examination there was found an ulceration through the walls of the *right* ventricle, which had commenced externally and gradually penetrated within the cavity. The structure of the organ was otherwise unimpaired. Two cases from ulceration are recorded by MORGAGNI—one that of a woman who had suffered some time from palpitation of the heart. Having raised herself in bed to eat her dinner, she exclaimed, “I am dying,” and almost instantly expired. The ventricle was perforated at the apex by a small ulcer. The other is that of a Knight, sixty-five years of age, who had been long affected with ulcers of the legs, which were healed up. “He was subsequently attacked with slight rheumatic pains, and at length complained of

* In an article recently published in the *Archives Générales de Médecine*, August, 1834, p. 501, by M. J. E. Dezeimeris, entitled *Recherches sur les ruptures du cœur*, five cases are quoted of rupture of the heart without previous lesion of its tissue. The first is taken from the *Nov. Act Acad. Nat. Curios. t. 17, p. 212*. It was that of a savant, who had complained for some time of hypochondriacal symptoms. He was suddenly seized in Nov. 1773, with violent pain in the shoulder, in the arms, and the whole of the left side of the body. The pulse was small, feeble and slow. He died in the night, fifteen hours after the commencement of the attack. The autopsy as well as the previous history of the case is exceedingly meagre. The left ventricle was ruptured—*two fingers could be easily introduced through the rupture*. The heart, it was stated, was neither ulcerated nor thinned, but very strong, (*robustissimum erat.*) No notice is taken of the ventriculo-aortic orifice. Was not this a case of hypertrophy with partial softening? The other cases, which we have not time to analyze, are more or less objectionable. In the second, the heart is acknowledged to have been very voluminous. In the third, which M. Dezeimeris considers the most decisive of the cases, which had come under his notice, the heart was somewhat pale, surrounded by a small quantity of fat at its base, and like the other portions of the muscular structure of the body, rather softer than is usual after death. “The aorta appeared somewhat narrower than the pulmonary artery—the contraction, was not confined, however, to any particular portion of it.” The *thickness* of the wall of the ventricle is not stated.

pain beneath the sternum, and in the arms, with some confusion of mind. About the middle of the same day he was partially relieved; and though his pulse was languid he was cheerful. He afterwards complained of a sensation of fumes ascending to the head, and also of tightness across the chest, as well as restlessness and anxiety. After these symptoms had continued for some time, he became pale and agitated, and suddenly expired. There was a fissure of half an inch in length in the longitudinal diameter of the left ventricle. The fibres in the circumference of the rent were destroyed by ulceration.” 27 Ep.

Ulceration may commence on the external or internal surface of the heart. A very singular case of the former kind, is recorded in the *Mém. de la Soc. de Médecine*, for 1776. The subject of it was a girl, æt. 22, who had been put in the House of Refuge at Perpignan for bad conduct. She complained, on her entrance, of weight within the chest, opposite the left mamma, between the fifth and sixth ribs. She was at the same time affected with various syphilitic symptoms, for which she was put upon an anti-venereal treatment. The syphilitic symptoms disappeared, but she still complained of her chest, and at the expiration of six months, of a sharp pungent pain, proceeding from the external part of the left mamma to the left side of the sternum. The pulse was small, frequent and irregular. During the height of the pain, it was suspended several seconds—she fainted frequently. Decubitus was at times utterly impossible. She remained seated, a little inclined backwards, and to the left side, with her head bent upon her chest. She died at the end of two years. The autopsy presented the following lesions. The heart was affected with a kind of carcinoma;—but a few shreds of pericardium were remaining. On the posterior and external face of the heart was a large ulcer, occupying the whole extent of the two ventricles. At the bottom of it, nothing was seen but a few muscular fibres, forming a very slender web, which was ruptured by a slight pressure of the finger. The substance of the heart around the ulcer was much indurated, presenting the aspect of scirrhus. The heart was eleven inches and eight lines in circumference, measured around the auricles, and the ulcer nine inches two lines and a half.*

The examples I have quoted appear to have been true ulcerations of the heart, but a large proportion of the cases described by authors are so vaguely and imperfectly detailed, that it may be fairly questioned whether they were not the result of simple laceration, accompanied with softening of its tissue.

* Op. Cit. also Andral, *Anat. Pathol.* t. II. p. 308.

The next form is that of *hypertrophy, with or without ramollissement*. When the latter of these states exists, it is often found to be connected with ossification and contraction of the ventriculo-aortic orifice. The mitral valves being closed to prevent regurgitation, it is easy to conceive, that the blood finding no egress, is powerfully acted upon by the ventricle, which stimulated to violent contraction by the double impulse of powerful mental excitement, and the reëction of the mass of fluid within its cavity, may give way, and the blood be effused within the pericardium. In one of the cases recorded, it is also stated that the arteria innominata at its origin was so diminished in its diameter by atheromatous deposition between its coats, as to leave a passage not more than one-eighth of an inch in diameter, and the left subclavian artery was in like manner diseased, and diminished one-half its calibre. Softening, associated with hypertrophy, may be either general or partial,—it may be confined to the muscular structure immediately around the rupture, or it may exist in patches. The substance of the heart in the place of rupture, is sometimes reduced into a soft yellowish pulp, without any trace of muscular fibres. It is the opinion, I believe of M. BLAUD, who has written a memoir on the subject, which I regret I have not been able to procure, that this is the form most commonly met with. That the softening generally assumes this gelatinous, pulpy appearance, is by no means evident from the history of the cases I have examined. It is stated to have existed in but one of these; but it appears to be highly probable that partial ramollissement, presenting the general characters we shall presently describe, coinciding with a greater or less degree of hypertrophy, are the morbid conditions of most frequent occurrence. I have not analyzed those cases with a view to establish this point, so far as such an analysis would go, for in a number of them it is not stated whether ramollissement existed or not; and it may be easily conceived that such a morbid state existing in a circumscribed spot, might remain unnoticed by an inexperienced or careless observer.

The heart may be simply *softened* to a greater or less extent. This morbid condition of the heart, was first particularly noticed by Laennec, who considered it an affection *sui generis*, produced by a derangement of nutrition, by which the solid elements of the tissue are diminished in proportion as its liquid, or semi-liquid elements augment.* This opinion is controverted by M. BOUILLAUD, in the work published by himself and M. BERTIN, on diseases of the

* Laennec, *Traité de l'Auscultation*, t. II. p. 144.

heart. He ascribes it, under whatever form it may present itself, to inflammation. "A contrary opinion cannot be assumed," says he, "without infringing the laws of analogy, inasmuch as softening of the brain, of the uterus, of the liver, of the spleen, and of the kidneys, is generally acknowledged to be the result of inflammation."* That in some instances ramollissement is a product of inflammation, there can be no question. A most striking and beautiful example of this kind is described by Dr. LATHAM.† It occurred in a boy, æt. 12, who was in perfect health on Saturday night, and died on Tuesday afternoon at 2 o'clock. "The muscular fibres of the heart were dark coloured, almost to blackness, loaded with blood, soft and loose of texture, easily separated and torn by the fingers; and upon the cut edges of both ventricles, small quantities of dark coloured pus were seen among the muscular fibres. The internal lining was of a deep red colour, and the pericardium intensely inflamed, containing flakes of coagulated lymph, floating in a turbid scum, and having its surface covered with a thin layer of reticulated lymph."

But it may be fairly questioned, whether in all the organs above mentioned, and the brain more especially softening is invariably an effect of inflammation. I have seen nearly the whole of the right hemisphere of the brain, converted into a pulp of a perfectly white and soft cream-like consistence, when no trace of inflammation could be observed in the immediate vicinity. It is therefore probable that at least one of the forms of softening exists independently of inflammation, being, as Laennec described it, a disease *sui generis*, and consisting, perhaps, in some modification in the action of the capillary vessels, with which we are at present unacquainted.

Two species of softening are described by Laennec, one with increased intensity of redness, the colour being sometimes that of a deep violet, and the muscular parietes presenting an excess of blood. The other characterized by diminished redness—the heart containing less blood, and being often of a pale yellow colour, compared by Laennec to the palest colour of dead leaves.

The tissue of the heart, in a state of ramollissement, is extremely flaccid, its walls collapsing when cut into, and assuming a flattened shape. Its texture is friable, so much so, as often to be torn by the slightest pressure. It is this form of ramollissement which so often accompanies rupture of the heart.

* Bertin et Bouillaud, *Traité des Maladies du cœur, et des gros Vaisseaux*, p. 397.

† London Medical Gazette, Vol. III.

The parietes of the heart may be dilated, and thinned. A case of this kind is related in the Journal of Morbid Anatomy, Vol. 1. It was that of a young lady, æt. 24, who had experienced the ordinary general symptoms of disease of the heart. She was attacked at length with symptoms of cerebral congestion, bled ξ xxij. and died immediately afterwards. The *right auricle* was ruptured near the superior vena cava. Its parietes are stated to have been thin and flaccid.

Two cases are given in the interesting memoir of M. DEZEIMERIS. One was a rupture of the right auricle, of which we have already adduced an example.

In the month of March, 1811, a servant whilst engaged in making chocolate for his master, died suddenly. The right auricle was ruptured, and very much dilated. He had never complained of palpitations, and his pulse had not been intermittent, (I. SCHÆFFER, *Der Zeit. und Volkskrankheiten in Hufeland's Journal*, etc. 1811.) The other is that of a man, æt. 54, who for several years had observed that his pulse was slow. He was occasionally affected with vertigo, and a sense of constriction about the heart. His health had previously been good. These symptoms increased in June, 1822, but were moderate until February, 1823, when they were again brought on by indigestion and powerful mental excitement. His pulse, which had at first beat forty in the minute, intermitting at the thirtieth, now beat but twenty, with an intermission after the fifth beat, (carb. ammonia, rhubarb, tartarized antimony, V. S. and derivatives;) amelioration rapid. In March, after a paroxysm of anger, the patient became morose and feeble; was then seized with gastric symptoms, and passed the night without sleep. He was afterwards seized with vertigo, and experienced great anxiety, with a sense of suffocation. The slightest exertion gave rise to palpitations. These symptoms were moderated by the use of the remedies above-mentioned, together with the infusion of digitalis with hydrocyanic acid. An œdematous swelling appeared about the face and lower extremities, but the pulse became more frequent; the respiration more easy, and he slept well. He was now ordered tonics, (Cinchona—lichen.) At the end of March, a strong moral emotion renewed his former symptoms, which were now, however, greatly aggravated; debility extreme; inability of expressing the most simple ideas; respiration very difficult; hæmoptysis. In the beginning of April, return of suffocation, which was relieved by the use of serpentaria and arnica, a mixture of sal ammoniac and tartarized antimony, with rhubarb, and by the application of a blister; but the patient having had the imprudence to go out on the 13th of

April, whilst the wind was high, was seized with the same symptoms, and died suddenly the next day.

Autopsy.—Slight adhesion of the pleura; lungs healthy, as well as the abdominal viscera; heart double its ordinary size; the large vessels greatly dilated, and the coronary veins varicose; considerable effusion of sanguinolent serosity in the pericardium. The right cavities of the heart were greatly dilated, and their walls very thin. There was a transverse rent in the right ventricle, five lines in length, exteriorly, and two only on the inner surface. Polypous concretion between the tricuspid valves. Left side of the heart thickened in every direction. Columnæ carneæ greatly hypertrophied. (J. S. MARTINI, *Medizinische Beobachtungen. Hufeland's Journal, der praektischen Heilkunde, Avril, 1833; et Kleinert Allgemeines Repertorium, etc. Janvier, 1834.*)

Rupture from *partial dilatation* of the heart, is the rarest form of the disease, with the exception, perhaps, of a true fatty degeneration. A case is related by Dr. BIGNARDI, in the *Annali Universali di Medicina, of Milan*, for 1829. It is that of a young lady, apparently in good health, who died suddenly. On examination, the cause of death was found to be a rupture of a small aneurismatic tumour at the origin of the aorta. The parietes of this tumour, it is said, consisted only of the internal and external lining of the heart, the muscular tissue around being softened. Of this form of disease, (partial paralysis,) about a dozen cases are on record. Other examples are no doubt to be met with in different museums. Ten of these cases have been collected and analyzed by M. BRESCHET, in the second number of the third Volume of the *Répertoire d'Anatomie*, for 1827. Another is described by M. REGNAUD, in an interesting article on this subject, published in the second Volume of the *Journal Hebdomadaire de Médecine*, for 1829.

The celebrated French tragedian, Talma, who died of an almost total obliteration of the rectum, was found to be affected with this disease. It is stated by M. BRIET, who attended him, that in the left ventricle of the heart, there was an aneurismal pouch of the size of a small egg, filled with fibrinous layers, tough and adherent, the walls of which appeared to be formed by the double thickness of the two laminæ of the serous membrane of the heart.*

The following are the inferences drawn by M. Breschet, from an examination of the cases of the disease in question, to which he gives the name of false consecutive aneurism of the heart.

* *Revue Médicale*, January, 1827.

1. That the heart may be affected with aneurism of a different nature from that ordinarily described.
2. That this disease ordinarily affects the left ventricle.
3. That it exists most commonly at the apex of the heart.
4. That this aneurism, from the mode of its formation, the state of its parietes, and the contents of its cavity, closely resembles false consecutive aneurism in the sense given by SCARPA to the term aneurism.

Of the cases collected by Breschet, one occurred to Corvisart, and two to Berard, the present Professor of Physiology in the School of Medicine at Paris, who showed them both to Laennec. That of Corvisart was a young negro, æt. 27. The upper and lateral portions of the left ventricle were surmounted by a tumour almost as large as the heart itself. The inside of the tumour contained several layers of very dense coagula, perfectly similar to those which fill a part of the cavity of aneurisms of the extremities. The cavity communicated with the inside of the ventricle by an opening of small width, whose contour was smooth and polished. The substance of which the tumour was formed was of the consistence of cartilage, but it preserved the appearance and colour of the muscles.

In the cases observed by M. BERARD, and described in his Thesis entitled *Dissertation sur plusieurs points de pathologie*, the tumours were at the apex of the heart and about the size of a small duck's egg. They are analogous in many respects to that of Corvisart, the cavity being lined with yellowish fibrinous concretions, disposed in concentric layers, and strongly adherent to the walls of the sac, which in this case were evidently continuous with the fleshy fibres of the heart on one side; but at the spot where the tumour extended to more than a finger's breadth beyond the septum ventriculorum, and the apex of the right ventricle, its parietes appeared to be formed by the pericardium, strengthened internally by the fibrous layers, and externally by means of a very dense cellular tissue, uniting the two surfaces of the pericardium. This adhesion existed throughout the whole surface of the heart.

In the second case observed by M. Berard, the circumstances were nearly similar, the fibrinous concretions being softer and more recent, and the adhesions between the pericardium existing only in the spot corresponding with the tumour.

A case of this rare form of disease came under my own observation, while engaged in the study of diseases of the heart, in the wards of M. CRUVEILHIER in Paris, at the Salpêtrière, during the winter of

1832, with my friends M. BERGEON, Interne of the hospital, and Mr. WALKER of Leeds, England.

The patient was an old woman, eighty-two years of age, affected with paralysis. She was admitted into the hospital on the 15th of November, 1832, and placed in No. 3, Salle St. Alexandre. At this time she experienced great difficulty in breathing, and had cough, with bloody expectoration. But little could be learned of her previous history. One of her friends stated that she was frequently ill, and suffered from violent attacks of palpitation and suffocation. Her right arm was much weaker than the left, (she frequently let fall objects held in her right hand,) and the fingers were habitually bent. It was impossible to ascertain when she was attacked with paralysis. The pulsations of the heart were distinctly heard, on applying the ear to the præcordial region, but there was nothing particularly observable in the sounds. No pain in the side. Pulse slightly accelerated, and rather feeble. She died eight days after admission.

Autopsy, performed thirty hours after death.—*Brain.* On removing the brain, a fine membrane was torn, situated on the anterior and exterior surface of the left hemisphere. It contained a small quantity of transparent serosity and extended to the vicinity of the lateral ventricle. It might have contained a large walnut. Its parietes, lined by an internal member, were of a slight yellow colour. The rest of the brain was of a very firm consistence. A considerable quantity of serosity escaped during the autopsy from the ventricles and spinal canal, when the body was placed in an inclined position.

Thorax.—Effusion of limpid serosity to the amount of four ounces in the right, and one ounce in the left side of the chest. No pleuritic adhesions or false membranes on either side. Superior lobe of right lung engorged posteriorly. Left healthy. The pericardium contained a small quantity of transparent serosity. The heart was of the ordinary size, but singular in appearance, its point being very saillant, projecting anteriorly, and covered with a pretty large quantity of fat. The greater part of the fat was removed with care, which reduced the sac to a lamina of very slight thickness. The left ventricle was then opened transversely, and a second longitudinal incision made as far as the orifice of the tumour, which was about two and a half lines in diameter—a female catheter being introduced with great facility. It resembled the neck of a herniary sac; the tumour is of a roundish form, slightly conical, the point projecting forwards. Its transverse diameter measured about an inch—its longitudinal fifteen lines. Having continued the perpendicular

incision to the summit of the sac, the fleshy columns of the ventricle were seen to advance within its interior, becoming much thinner. The muscular structure of the heart extended as far as the summit, being there but a line, or less, in thickness. It might almost be said that the inner surface was immediately in contact with the pericardium. Its cavity contained a quantity of liquid blood, surrounding a blackish coagulum of the size of a filbert. This coagulum did not adhere to the sac, and was not formed of concentric layers, as in aneurism of the arteries. The left ventricle was slightly hypertrophied, its cavity appearing to be of the natural size, (excentric hypertrophy.) The right ventricle seemed slightly dilated, and there was a considerable ossification about the left auriculo-ventricular orifice. Several smaller ones were observed at the ventriculo-aortic orifice, the largest in the middle sigmoid valvule. The orifice, however, was not sensibly contracted. The coronary arteries were dilated—a female catheter was introduced without difficulty.

Abdomen.—Duodenum highly injected, as well as a considerable extent of the ileum and several points of the ascending colon.

Laennec attributes the production of partial dilatation of the heart to ulceration of its lining membrane. This appears to have been the case in the present instance.

The above specimen was deposited in the museum of the faculty of Paris, where there is another, the tumour being towards the base of the ventricle.

It is stated by Breschet, that these aneurisms are usually found at the apex of the heart. This seems to require confirmation, seven cases at least being known to exist in museums, or described in books where the tumour was found at the side or base of the ventricle.*

We now come to the last head, or that in which the *heart has been more or less changed into fat*.

The accumulation of fat about the heart is sometimes very considerable, enveloping its substance completely—it is generally found, however, around the base of the heart, deposited between its muscular parietes and the pericardium, and along the course of the coronary vessels. Corvisart and Laennec are both of opinion, that this fatty state may exist about the heart, without interfering with the healthy performance of its functions. There is, however, another state totally different from the preceding, and which is thus accurately described by Laennec. “The *fatty degeneration* of the heart is the infiltration of its muscular substance by a matter presenting all the

* M. Reynaud, *Journal Hebdomadaire*, t. II. p. 367.

physical and chemical properties of fat. It is an alteration precisely similar to the fatty deterioration which HALLER and VICQ D'AZYR observed in the muscles. I have never, says he, met with this alteration but in a very small portion of the heart, and only towards the point. The substance of the heart in the spot thus altered is paler than in the other parts, and instead of the red colour, which is natural, it assumes a yellowish colour, analogous to that of dead leaves, and nearly similar to that observed in certain cases of softening.”*

A case of this kind came under my notice, and that of the gentlemen whose names I have mentioned. It occurred within two weeks of the former, thus confirming a remark made by M. Rostan, that, in large hospitals, it sometimes happens that the rarest affections are met with in a short interval of time, and do not perhaps occur again for years.

Marie Madelaine Jean, the subject of this observation, an old woman seventy-six years of age, was found dead in the privy. One of the girls who saw her enter, and heard her fall, called out for assistance. She was seen by M. Bergeon, half an hour after the accident, when she was yet warm, but exhibited no signs of life. The lips were livid; the mouth wide open; the face much discoloured, and the eyes convulsed upwards. M. Bergeon questioned those who saw her daily, and was informed that she walked with much difficulty, and that her body was constantly bent forward, and to the right side. She had supped the evening before her death, with a good appetite, and did not complain of pain.

Autopsy, forty-eight hours after death.—The teguments of the cranium contained but little blood. The upper part of the skull, on being removed, brought away with it the superior portion of the longitudinal sinus. The cavity of the sinus was nearly obliterated, and contained no blood. The great falx of the brain contained four or five ossifications,—one of them was two inches in length, and one in breadth—the surface corresponding to the brain was unequal and mammillated—the others situated posteriorly were not voluminous, and less remarkable. The meninges and brain itself examined with great care, presented nothing worthy of notice. Some of the gentlemen present, thought there was a softening of the thalamus nervi optici of the left side; but this was by no means evident. The vertebral column was laid open, and medulla spinalis found to present a natural aspect and consistence, but on its inferior and posterior surface, there were found three ossifications,

* *Traité de l'Auscult.* t. III. p. 168.

presenting a striking analogy in appearance with those observed in the falx, but of smaller dimensions.

On opening the thorax, the pericardium was seen greatly distended, and presenting a black appearance. An incision being made into it, the heart was displayed, surrounded by an enormous clot of black blood. This was removed in one piece, and appeared to weigh about $\bar{\zeta}$ xii. Before removing the heart from the chest, we examined, with care, the spot at which the rupture took place. There were too small linear openings, three or four lines in length, separated from each other by an interval of three lines, situated on the anterior face of the left ventricle, one-fourth of its length from the apex. An attempt was made by M. Cruveilhier to penetrate within the cavity of the ventricle through the opening but without success. A longitudinal incision was now made through its parietes, and the cause of the obstruction at once made evident in their narrow and sinuous course, uniting near the centre, and communicating with the cavity of the ventricle by a single opening. The thickness of the wall of the ventricle was but slightly diminished; around, and a little above the rupture, in the part corresponding to the external border of the ventricle, the tissue of the heart seemed less red than in its natural state, and especially than in the interior of the septum. There was at the same time a peculiar marbled appearance, exhibiting yellow streaks, not of a roundish form, whose direction was parallel with that of the fleshy fibres of the heart. These yellow streaks were not much softer than that part of the heart surrounding them, but the substance of the heart, when cut into thin slices, exhibited a friability, comparable to that of the liver. This condition of the ventricle appeared to be a fatty degeneration. The right ventricle was covered with a considerable quantity of fat; it presented in other respects nothing worthy of note. The auricles were healthy, and the different orifices of the heart afforded no appreciable alteration. The lungs were healthy, with the exception of a slight engorgement at the posterior part of the right lung. Stomach and bowels healthy. In the broad ligament of the uterus, on the right side, there was a tumour of the size of an egg. It was irregular in its form, and its hardness such that it could not be cut into with the scalpel, its consistence being between that of scirrhus and ossification.

The muscles of the back, situated along side of the spine, were pale and discoloured, and appeared to be entirely converted into fat—their fibrous structure, however, was still observable. This morbid appearance was more fully developed in the posterior part of the legs. The gastrocnemii and solæi of the left side were entirely converted into fat,

and perfectly white,—traces of fibres, however, were still distinctly seen—those of the opposite side presented the same appearance, but not to so great a degree—they had not the red colour of ordinary muscles, but exhibited a marbled appearance, resulting evidently from the intermixture of fibres changed into fat, with those which had not undergone that alteration, being perfectly analogous in appearance to those of the heart already described. The muscles of the thighs were nearly healthy, but the sciatic nerve, as well as its divisions, were double their ordinary size, as compared with a subject of the same dimensions, lying upon an adjoining table of the amphitheatre. This augmentation in size arose from a superabundance of fat in their tissue.

Remarks.—The case which I have here detailed, presents a variety of highly important lesions. How far the bony depositions in the falx, and in the cellular tissue between the arachnoid and dura mater of the medulla were connected with the paralytic state of the patient, I will not stop to discuss. The appearance presented in the heart might, on a slight examination, have induced a belief in the existence of carditis, but this could not have been entertained for a moment. The yellow streaks we have described, had neither the consistence nor form of pus, nor did the heart, although softened in some places to a certain extent, present the deep red or violet colour which characterizes softening produced by the inflammation, as in the case of Dr. Latham; and besides, it were absurd to suppose that a lesion of that kind could have existed, the patient having the night previous enjoyed a hearty meal, and who, up to the hour of her death, did not complain of the slightest pain. It was in fact, a fatty degeneration, confirmed by an analogous state of the muscles in other parts of the body, resulting from a transformation of their fibres into fat.

There is another form of rupture which has been described under the name of partial rupture of the heart, consisting in rupture of the columnæ carneæ, and the tendons of the valves. Three cases of the kind are recorded by Corvisart, one by Laennec, and one by Bertin. The cases recorded by Corvisart were characterized by a sudden sense of suffocation, and the general symptoms of organic disease of the heart.

ART. VIII. *Quarterly Report of Diseases treated at the Wills' Hospital for the Blind and Lame, with some account of the Hospital.*

By S. LITTELL, M. D. one of the Surgeons of the Institution.

AMONG the charitable institutions which so honourably distinguish Philadelphia, the traveller will delight to enumerate the WILLS' HOSPITAL for the indigent BLIND and LAME,—at once an ornament to the city, and a splendid memorial of private munificence.

It derives its name from its founder, the late JAMES WILLS, and is beautifully situated on Race street, opposite Logan Square, in the north-western part of the city. The Asylums for WIDOWS, and ORPHANS, and the Institution for the instruction of the BLIND, are in its immediate neighbourhood.

The building is eighty feet long, and fifty deep, with a piazza on the south side, twelve feet wide, running its entire length; and is sufficiently spacious for the accommodation of about seventy patients with their attendants. It consists of three stories,—a basement, a middle, and an upper; with an attic, twenty-four feet in width, and eighty in length. The whole building, including the piazza, is roofed with copper.

The front on Race street, is composed of coloured sandstone, and is ornamented with six Ionic pilasters supporting a proportional entablature and pediment. The entrance is approached by a flight of steps, surmounted by a Grecian Ionic portico of four columns. The remaining part of the building is composed of rubblestone, and rough cast in imitation of the front.

The interior of the house is divided into two principal divisions, one for the male, and the other for the female patients. The basement story, which is arched throughout, contains two dining rooms, two pantries, two bath rooms, a kitchen, a scullery, and a cellar. The middle contains an office and a parlour for the steward, a vestibule, a chapel, and six dormitories. The upper story has two chambers, one for the steward, and the other for the domestics, an infirmary, and eight dormitories. The attic is divided into two rooms of equal dimensions. The stairways are built of marble, with iron railings.

The house is heated by furnaces in the cellar, from which the warm air is conveyed into every room, through flues constructed in the walls, in addition to which, the dormitories also contain fire places.

The lot on which the Hospital is erected extends from Schuylkill Fourth street to Fifth, and from Race to Cherry street. It is bounded in front by a strong iron railing placed upon a wall of cut stone, two

feet high, forming a quadrant from each corner of the front steps, extending to the line of the street, from which the building recedes fifty feet. The original legacy of Mr. WILLS, being the residue of his estate after satisfying other bequests, was \$108,396, 35, which at the period of the erection of the building, had accumulated to \$122,548, 57; the whole expense including the lot, amounted to \$57,203, 69; leaving a balance of \$65,344, 88, the interest of which, subject to a small annuity, is available for the support of the institution.

The corner stone was laid on the 2d of April 1832, and on the 3d of March 1834, the Hospital was opened for the reception of patients, by an eloquent and impressive address from the Hon. Joseph R. Ingersoll. The following week divine service was performed for the first time in the chapel, by the Rt. Rev. Dr. White, the chaplain of the Revolutionary Congress, and the friend of WASHINGTON.

Persons applying for admission are expected to bring satisfactory evidences of respectable character, and indigent circumstances. By a temporary regulation, *pay* patients are also admitted, and the managers are thus enabled to relieve more persons gratuitously, than they would otherwise be enabled to do.

The addition of a few thousand dollars to its annual revenue, would extend the benefits of the institution to as many persons as could be accommodated within its walls; and it is hoped that a charity which so strongly appeals to the best sympathies of the human heart, will not be overlooked amid louder claimants for the public favour.

The situation of the Hospital could not have been more happily chosen. It is in the healthiest part of the city, and the ample grounds connected with it prevent the encroachment of private dwellings, and secure a free ventilation. LOGAN SQUARE, directly opposite, has been lately enclosed and planted; and in a few years, will furnish a cool, umbrageous promenade, where the eye of the invalid may repose on an extensive field of verdure, relieved at intervals by clustering trees, and rendered more grateful and refreshing by its contrast with the busy scene without. Already strangers afflicted with diseases of the eye, have sought its peaceful seclusion, in preference to the noise and bustle of our large hotels; and will probably do so in greater numbers, as the institution becomes better known, and its advantages more correctly appreciated.

Such is the WILLS' HOSPITAL for the indigent BLIND and LAME. In view of the inappreciable blessings which were to flow through succeeding generations, from his princely bequest, its benevolent founder might have exclaimed in the language of the immortal Roman: *Exegi monumentum aere perennius!*

Report.—In the treatment of no class of diseases is there so much empiricism as in affections of the eye; they appear to have been generally considered as without the laws which govern the lesions of other organs, and the greater number of physicians, unmindful of the principles which influence them in other cases, have been ever ready to wander from the path of patient observation, in the idle search after some remedy which should be of universal application. Our practice has thus become tentative and unsatisfactory, and though perhaps less so than formerly, is still far from reposing on a sound and permanent foundation. We shall find in these diseases, as in all others, that in proportion to the increase of our knowledge, will be the simplicity of our theories—the farrago of articles now employed, will give place to a few well appreciated remedies—success will be expected from the judicious and discriminating use of the means which we already possess, rather than from the invention of novel modes of treatment—and our practice will be at once attended with more satisfaction to ourselves, and advantage to our patients.

It is the design of the present writer, briefly to describe, what has fallen under his actual observation in the institution with which he is connected, and to relate his own practice as succinctly as possible, without unnecessary allusion to the opinions or practice of others. Should his example be followed by his colleagues, it is hoped that their united exertions may tend to divest the subject of some of the difficulties in which it has been involved, though they may not be so fortunate as to make any positive additions to the stock of information.

The greater number of cases admitted into the Hospital during the quarter ending September, 1835, were inflammations of the conjunctiva, Common, Catarrhal, and Strumous; the two former presenting in their history or treatment, few points requiring particular notice. For the most part, a light diet, occasional laxatives, a collyrium of acetic acid freely diluted, and applied by an eye-glass frequently through the day, a solution of the nitrate of silver, two grains to the ounce, dropped into the eye morning and evening, and in some cases the local abstraction of blood by cupping, were generally sufficient to effect a speedy cure. In mild catarrhal inflammation of *recent* occurrence, warm applications to the eye, with pediluvia and Dover's powder, at night, were frequently followed by very beneficial results. I have employed with much advantage the following formula:—
R. Aquæ fluvial. Oss.; Plumb. super. acetat. ℥j.; Acid acet. ʒij.; Tinct. opii, ʒj. M. It should be applied warm to the globe of the eye, by means of an eye-glass, and afterwards by a soft sponge

to the external surface of the palpebræ. When there is much pain, relief will frequently be obtained by elevating the temperature of the mixture, and exposing the eye to the vapour arising from it; or for this latter purpose, camphor mixture, with a much larger proportion of laudanum, may be advantageously substituted. Other anodyne fomentations, such as decoction of poppy heads, &c. would probably be equally beneficial, their efficacy depending perhaps as much on the union of warmth and moisture, as upon any medicinal impregnation. In severer cases, cold applications are commonly preferred, and the collyrium of acetic acid, one part to eight or ten of water, is one of the most soothing and efficacious. The astringent property of the acid may be seen in its effect in blanching the lips when eaten with lettuce, and it was from observation of this circumstance, that I was first led to employ it in inflammations of the eyes. Occasionally it was necessary to premise venesection, especially in robust and plethoric individuals; but in general the cure was readily accomplished by local means, and they were of course preferred.

Mr. Guthrie's ointment of the nitrate of silver, was not employed in any of the preceding cases, though so highly recommended by himself and others. The inflammation quickly subsided under the use of the remedies mentioned, and aware that diseases of the eye particularly, are not unfrequently protracted by the *nimia diligentia medici*, it was not thought expedient to make trial of others. It has appeared to me less applicable to sporadic cases, than to those of epidemic character; the former are more usually dependent upon some cause affecting the whole system, such as cold &c., and are generally benefited by a mild antiphlogistic treatment, while the causes whatever they may be, which give rise to the latter, are local in their operation, and the constitution is only sympathetically involved. Here there can be no question of the superiority of the ointment, or rather of the nitrate in its *solid* form, to all other applications.

In strumous ophthalmia we cannot expect much benefit from topical applications, while the constitutional treatment is neglected, and the latter will frequently be found the more important of the two. Several of the patients with this affection, were children, of delicate frames, and pallid appearance; in such cases, the leading indication appeared to be, to invigorate the system, and in proportion as this was effected, the eyes participated in the general improvement. The means employed with this view, were a light nutritious diet, the tepid bath, gentle aperients, and the blue mass, variously compounded with myrrh, and the sulphates of quinine and of iron. In some cases, a

treatment more decidedly tonic was demanded, and the sulphate of quinine, with the carbonate of iron, and cinchona or colombo, was prescribed. The local treatment consisted of cupping, where the symptoms required it, the collyrium of acetic acid, and solutions of the nitrate of silver, and the sulphate of copper. The ung. hydrarg. nitratis, diluted with lard, and the ointment of the red oxide of quicksilver, in the proportion of twelve grains to the ounce, were employed with advantage, especially where the lids were affected. Counter-irritation by cantharides and tartarized antimony, was tried in some cases, but it was thought that any benefit resulting from it was more than counterbalanced by the pain and inconvenience which it occasioned.

The foregoing treatment is exemplified in the following case. A lad, aged seven years, was admitted for inflammation and opacity of the left eye, consequent upon a severe attack of small pox; the opacity was situated immediately in front of the pupil, and nearly covered it; there was a red circle around the cornea, great intolerance of light, &c. Low diet, purgatives and cupping, with other appropriate local remedies were directed, and with decided advantage; but he subsequently relapsed, and a repetition of the treatment failed to produce the same effect. He was now put upon an alterative course, consisting of the blue mass alone, and afterwards in conjunction with quinine, iron, myrrh, &c. gentle aperients, and counter-irritation on the back of the neck. Under this treatment his improvement, though not without some interruptions, was upon the whole progressive; when, from some unknown cause, all the symptoms became greatly aggravated, a slough formed on the scite of the opacity, and fears were entertained lest it should penetrate the anterior chamber. He was ordered to be cupped, to have iced water constantly applied to the eye, and to take every three hours, one of the following powders:—R. Sulph. quin. gr. xij.; Cinchon. pulv.; Ferri. carb. ʒā. ʒj. M. ft. ch. no. xij. The good effects of this treatment were strikingly manifested; the inflammation and intolerance subsided, the ulcer filled up, and at the present time, (eleven days since the occurrence of the relapse,) the little patient is better than he has been since his admission, and is still rapidly improving. After the first forty-eight hours, the powders were directed to be taken three times a day. No local application was used, with the exception of a weak solution of the argentum nitratis.

I have witnessed the advantage of a tonic course in several instances of conjunctival inflammation, not of strumous character, where the antiphlogistic plan had been carried too far. It is also apparent in

the affection, occasionally met with in hysteric females, which is principally characterized by pain or intolerance of light, without any appearance of inflammation. In such cases a rigid antiphlogistic treatment, confinement to a dark room, counter-irritation by blisters, tartarized antimony, and setons, &c. have been steadily pursued for several months, without any other result than that of enfeebling the general health. The appropriate remedies are the preparations of iron and bark, valerian, gentle aloetic aperients, out door exercise, &c.

Granular inflammation of the lids, the sequel of purulent ophthalmia, is sometimes a most intractable disease; a case of this kind of several months standing, was admitted under my care in the early part of the preceding winter. The palpebral lining was covered with granulations, and had an angry, livid appearance; the conjunctiva covering the sclerotica and cornea, was deeply implicated and changed in structure; the patient was suffering from chronic hepatic affection, and altogether presented an afflicting spectacle. I left him in the house, at the expiration of my term; at which time, notwithstanding one serious relapse following an attack of intermittent fever, he had recovered so far as to be able to read, and even to write a letter for one of his fellow patients. The treatment consisted chiefly in the application of the *solid* nitrate of silver, at intervals of two or three days, to the inner surface of the lids, with due attention to the constitutional symptoms. He subsequently relapsed again, and became much worse than he had previously been; the corneal conjunctiva was thickened, resembling the condition called *pannus*, and was even elevated so as to give the eye a staphylomatous appearance; it was so uniformly opaque that the iris was quite invisible; for several weeks he was totally blind, and a person who had no previous knowledge of the case, might have supposed his sight irrecoverably lost. He was emerging from this condition when I again took charge of the house, and has been steadily improving ever since. The corneæ of both eyes have become clear, he can again see to read and write, and is delighted with his escape from a situation which he once thought quite hopeless. The treatment for the last three months, has consisted in the use of the *solid* nitrate of silver, Mr. Guthrie's ten grain ointment,* and crystals of the sulphate of copper; towards its close, advantage was derived from the nitrate of silver in solution, the ung. hydrarg. nitratis diluted, and from directing upon the eye of the patient, while in a supine position, a gentle stream of cold water, several times

* The ointment must be made with lard, and not with spermaceti cerate, as directed by M. Guthrie, otherwise it will be found quite impossible to diffuse it over the surface of the eye.

a day. Concurrently with these means, the shower bath, and a course of tonic medicines, were employed with the effect of reëstablishing his general health.

In one case of sclerotic inflammation, catarrhal in its origin, and which had been unsuccessfully treated for several weeks, before it came under my notice, the patient was cured by the repeated application of cups to the back of the neck, together with the daily use of saline laxatives, and strict attention to diet. The cups were applied seven or eight times, at intervals of three or four days, four or five ounces of blood were abstracted each time, and the improvement was perceptible after each repetition. In inflammation of the fibrous tunics and internal parts of the eye, blood drawn from the back of the neck, has appeared to have a more decided effect, than when taken from the forehead or temple. The application of leeches to the parts in the immediate neighbourhood of the eye has been quite abandoned, on account of the irritation occasioned by their bites.

An instance of the mixed disease, called catarrho-rheumatic inflammation, occurred in the person of an old lady, who had been under the care of a physician, two or three months previously to her admission; she had an ulcer on each cornea, and was moreover afflicted with rheumatic pains in her limbs, &c. A solution of the nitrate of silver, with the acetic acid collyrium, was directed, and an antiphlogistic course, with Dover's powder at night, was pursued for a few days; but more benefit was thought to result from the following mixture, under the use of which the inflammation speedily disappeared; the ulcers filled up more gradually. *R.* Mixt. camph. $\bar{\text{ʒ}}$ ij.; Liq. ammon. acetat. $\bar{\text{ʒ}}$ j.; Spts. ether, nitros.; vin. colchici. $\bar{\text{aa}}$. $\bar{\text{ʒ}}$ ss. Dose, a table-spoonful three times a day.

My experience of the value of the solid nitrate of silver in ulcers of the cornea, accords with that of Mr. Lawrence; I have seen it manifestly injurious, when applied while any considerable degree of inflammation existed, and when this has been subdued by appropriate remedies, the ulcer has generally healed without difficulty; or when this has been more tardy than usual, it has been accelerated by touching it occasionally with a camel's hair pencil, dipped in a solution of the nitrate, of a strength varying from two to six grains.

The operation for cataract by absorption has been performed in several instances, and the patients are all in progress of recovery; the cases present nothing of particular interest; one of them a lad, aged twelve years, had congenital capsular cataract.

In the case of a young woman, whose vision had been destroyed by internal inflammation several years before, I performed the operation

for artificial pupil, according to Sir William Adams' method of dividing the iris. The left eye was entirely lost, the iris disorganized, adherent to the opaque capsule, and the retina probably injured; the iris of the other preserved its glossy appearance, but the pupil was greatly contracted, and adherent on every side to a mass of organized coagulable lymph; with this eye she could barely distinguish day from night. The iris was divided in two-thirds of its diameter, immediately above its superior pupillary margin; no separation took place except at the nasal extremity of the incision, where a small aperture was formed, admitting light sufficient to enable the patient to discern an object held close to the eye. After the lapse of a proper interval, the operation was repeated, and somewhat varied; the instrument was introduced behind the cornea as before, and through the pupil; two incisions including a triangular portion of the iris, were then made in the inferior and nasal side of that membrane; the apex terminating in the pupil. It was hoped that the insulated part would retract, and thus an opening be made; but in this expectation, we were again disappointed, for when the effused blood was absorbed, the divided edges were found to have kindly united, there being no separation whatever between them. The only advantage derived from this latter operation, was a slight enlargement of the aperture first made, and a corresponding increase of vision. No unpleasant consequences followed the operation; care being taken by bleeding, cupping, &c. &c. to prevent the accession of inflammation.

The knife of Sir William Adams, is not well adapted for this operation; I had one made for the purpose, somewhat narrower in its blade, and resembling a strait sharp-pointed bistoury.

It may be thought precipitate to condemn a proposition from the result of a single operation, but my opinion, never very favourable towards it, is certainly less so than formerly. From the facility with which the unsupported iris yields before the knife, its division is much more easily described than accomplished; and except perhaps some cases of *atresia anterior*, where it is fixed between two opposing points, little benefit seems likely to follow an incision if made.

ART. IX. *Statistical Account of the Cases of Urinary Calculi admitted into the Pennsylvania Hospital from May, 1756, to May, 1835.* By R. COATES, M. D.

YEAR.	Admitted.	Cured.	Relieved.	Died.	Removed by friends.	REMARKS.
1756	1	1	0	0	0	A female.
1763	2	1	0	0	0	1 infant remained till 1766.
1764	1	1	0	0	0	
1766	3	4	0	0	0	1 infant from 1763.
1783	1	1	0	0	0	
1786	1	1	0	0	0	
1789	1	0	0	0	0	Remained to next year.
1790	0	1	0	0	0	
1793	1	1	0	0	0	
1798	1	1	0	0	0	
1800	1	0	0	1	0	
1801	1	0	0	0	0	1 remained to next year.
1802	1	0	1	0	0	1 remained to next year.
1803	1	1	0	1	0	
1804	1	0	0	0	1	An out patient.
1805	1	1	0	0	0	
1810	3	1	0	1	0	1 remained to next year.
1811	1	2	0	0	0	
1812	2	2	0	0	0	
1813	2	1	0	0	1	
1814	3	2	0	1	0	
1815	1	1	0	0	0	
1816	2	2	0	0	0	
1817	1	1	0	0	0	
1818	2	2	0	0	0	
1819	3	2	1	0	0	
1820	2	2	0	0	0	
1824	3	2	0	1	0	
1825	1	0	0	0	0	Remained to next year.
1826	2	2	0	0	0	1 remained to next year.
1827	0	1	0	0	0	
1829	4	2	0	1	0	1 remained to next year.
1830	3	2	0	1	1	
1832	1	0	0	0	0	Removed, &c.
1833	4	2	0	1	1	1 remained, &c.
1834	3	2	1	0	0	1 remained, &c.
1835	0	1	0	0	0	
79 years.	61	46	3	8	4	

The mode of entering patients on the books of the Pennsylvania Hospital, is not such as to enable us to determine the ages of those who were the subjects of the above record. Nor is it possible to ar-

rive at positive conclusions with regard to several other interesting points. The first case, in 1756, was a female, and there may have been one or more females among the remaining cases, but this is rendered very improbable by the recollections of those who have been longest acquainted with the institution.

This fact can be determined only by a laborious search extended through nearly 40,000 separate entries, made during a period of seventy-five years. This examination shall be made, and the table corrected, if permission be granted; so that the profession may be put in possession of the most dependable information which the nature of the investigation will permit. In the mean time, the following calculations, founded upon the data just given, will be found to furnish very close approximations to truth.

The patients removed by their friends, are cases which are taken from the hospital against the wishes of their surgeon, and must therefore have been removed before operation, or before the completion of the cure of the incisions, the latter being a course of conduct extremely improbable in an institution regulated as is the Pennsylvania Hospital. This column contains, however, one entry of an out-door case of calculus, in the year 1804, who was removed at the request of the surgeon, the disease being incurable, and not admitting of an operation. It is therefore, proper, to exclude the entries on this column from our calculations of the results of lithotomy.

Of the deaths, one is known to have occurred from old age, and the exhaustion produced by the disease, without any attempt at operation, and must be also excluded. Others may have occurred in a similar manner, but as the fact cannot be ascertained, the possibility is waved.

Of the three marked as relieved, we may observe that there are no means of ascertaining whether they were ever subjected to an operation. It is most probable that they were not. If operated on, they may have experienced serious accidents, consequent on lithotomy, or they may have become subject to some other disease before their discharge; in either of which cases they would be entered on the books as relieved, only even though perfectly cured of calculus. Under this uncertainty, these three cases cannot be employed with safety in any calculation, but they tend to show the infrequency of serious consecutive accidents in this institution. The following, then, is the fairest possible approximation to the proportion of deaths from lithotomy in male subjects in the Pennsylvania Hospital, which can be deduced from the foregoing table.

Number of admissions from 1756 to 1835, 61.

From which deduct—females	-	-	-	-	-	1
Removed by friends	-	-	-	-	-	4
Relieved	-	-	-	-	-	3
Died without operation	-	-	-	-	-	1
						<hr/>
						9
						<hr/>
Balance—male cases of lithotomy	-	-	-	-	-	52
Of which died	-	-	-	-	-	7

Proportion of deaths to number of operations, as 1 to $7\frac{3}{7}$; prior to 1800 there were twelve cures, and no death; proportion since then, as 1 to $5\frac{5}{7}$.

Lithotrity has been but once attempted in this institution, and then with imperfect instruments. It was relinquished on account of the pain it occasioned, and the patient was cured by the lateral operation.

It is much to be regretted, that the mode of entry precludes the possibility of making tabular statements of the results of practice in the Pennsylvania Hospital, except in regard to lithotomy, and *perhaps* puerperal fever. The largest distinct mass of experience furnished by American medical institutions, is thus, in a great degree, lost to the profession and to the cause of humanity! This, in common with several other equally glaring defects of arrangement common to most, if not all the hospitals in the country, is part of our inheritance from the father-land, to which, in other respects, the divine art is so deeply indebted! It would be by no means difficult to correct these defects, and the interests of society call loudly for the remedy.

REVIEWS.

ART. X. *Memoir of the Life and Medical Opinions of John Armstrong, M. D.: to which is added, an Inquiry into the facts connected with those forms of Fever attributed to Malaria or Marsh Effluvium.* By FRANCIS BOOTT, M. D. Vol. II. London, 1834.

IN a notice which we gave, some time since, (Vol. XIII. p. 425,) of the first volume of this work, we took occasion to examine, somewhat at various length, points which came incidentally under review. The life of JOHN ARMSTRONG, particularly in its earlier period, was out of the ordinary train of scholastic or professional education. It was not strange therefore, that some of his opinions in reference to medical education and medical institutions, should have been at variance with the opinions of those to whom the guardianship of those systems of education and polity have long been entrusted. It seemed to us a suitable occasion to offer some remarks on those peculiar views. They are questions of great practical interest to us, no less than to the medical community of Great Britain. Our own institutions for professional education, and for the cultivation of professional character and attainments, are derived, with only partial alterations, from those of the mother country. Many of these alterations, we believe, indeed, to be great improvements; still the same great principles, in many particulars, run through the systems of both countries. And when they are attacked by a man of so much eminence and worth as Armstrong, it seemed worthy of the inquiry, to consider how far the systems themselves are justly amenable to his censure. The result to which we were brought, was, that so far as Armstrong had cause of complaint, the true cause was to be found rather in the administration of the system, than in that system itself; and that in the irritation of personal feelings he did not always perceive that the cause of the evils of which he complained, if it were not sometimes, in part at least, in himself, was to be found more in an unhappy management of ancient institutions, than in the unfitness of such institutions themselves, to accomplish their legitimate objects, in the protection of the great mass of society from the evils of unrestrained

quackery, and of the profession itself from the inroads of unworthy members.

If in this examination, we have spoken less favourably of Dr. Armstrong in some particulars, or have expressed less deference to his opinions on some points than the more zealous of his admirers would have wished, we have at the same time been not insensible to the many estimable traits of character which his life exhibited. Neither have we, as we trust, undervalued the contributions which he made to medical science, nor the improvements which, in some degree at least, he introduced into medical practice, although we were not prepared to subscribe to the correctness of all of his opinions, and still less to acknowledge the sufficiency of the evidence on which some of them rest. The deference paid to extended generalizations in medicine, is every day diminishing, and the conviction is constantly growing, that far more extensive and more accurate series of observations are necessary, before we can frame theories of disease that shall be entitled to much more of consideration, than as curious or ingenious speculations. Still farther were we from any design, or any willingness, to speak in disparagement of the work which was the occasion of our remarks, or of its amiable and able author. With a mind more logical, and disciplined by a much more systematic course of education and study, than belonged to, or were enjoyed by the master whose opinions Dr. Boott illustrates and enforces, he has brought to his task an extensiveness of research, and an ability of argument, which Armstrong himself could never have given to it. We are aware that this will sound to the ears of the author more like censure than commendation. For there is a fidelity and an earnestness of friendship in all that connects him with Armstrong, which leads him to throw in all his own powers of investigation and reasoning, to sustain the opinions and reputation of his friend. Yet we cannot but feel, and feeling it we see no reason why we should not say it, that he would have produced a better and more useful book, had his connexion with that distinguished man been somewhat less intimate, and his devotedness to his opinions less entire and absorbing.

As it is, it is a work of much interest and value. Although in our view, not a little trammelled by the desire to support the whole system of opinions derived from Armstrong, yet the "Inquiry into the facts connected with those forms of Fever attributed to Malaria or Marsh Effluvium," furnishes a history of febrile diseases, in connexion with the phenomena attending their origin and progress, abounding with information of the most important kind, and highly interesting in its character, even to those who are not convinced by the

evidence it presents, of the correctness of the views which the author entertains, in regard to their true cause.

We have before expressed an opinion of the excellence of this Inquiry, in regard to the fevers of our own country, in the first volume of this work. But the discussion of the preceding topics had so extended our remarks, that we did not speak of this part so fully perhaps, as its value and importance, especially to physicians in this country, deserved. We are not disposed to go into a very detailed examination of it at this time. Yet some notice of it seems necessary, to prepare the way for a satisfactory comparison of the fevers of America with those of Europe, which are the peculiar subject of this second volume.

Before entering upon his general survey of the fevers of this country, Dr. Boott goes into an examination of the question of the identity of yellow fever with the bilious remittent, acknowledged to be indigenous; in which he shows how little foundation there is for the opinion of CHISHOLM, that a distinct disease, the much talked of *Bulam Fever*, was imported and confounded with it. This examination, able and, to our minds, perfectly conclusive as it is, was scarcely necessary to convince the physicians of this country. We believe few remain, who have any doubts on the subject. For us, as we have before remarked, it is chiefly interesting, as a faithful and judicious summary of the facts and arguments which have long since settled the question. In this point of view this essay possesses great interest; for we hardly know where else can be found so condensed and at the same time so complete an examination of the whole subject.

To British physicians, however, the subject is still of a higher and more practical importance; since to them, at least to a great portion of them, as represented by their medical writers, the doctrine of contagion is a stumbling block, which they seem to have no power to get over. To them, if we might hope that our recommendation would reach them, we would recommend a careful perusal of this chapter; and if their minds are not hopelessly bewildered by the confusion into which the greater part of their writers have fallen, about contagion and infection, they will find a clearness and abundance of evidence which will forever settle the question with them also.

So lately as April, 1835, (such is the date of the publication,) an author, no less distinguished than JAMES COPLAND, author of the Dictionary of Practical Medicine, makes use of such language as this: "The non-infectionists insist upon four things; the truth of which they *take for granted*, and make the bases of their arguments

in proof of their doctrine. The first, is the passage of fever into plague, and of remittents into yellow fever."—Dict. of Pract. Med. p. 776. The other *three things* are not particularly connected with our present topic, and we pass them without notice. But those who are familiar with the fact and the proof of it, that remittent fever not merely passes into yellow fever, but that the latter is no more than an aggravated form of the former, may be surprised to learn that all this is only "*taken for granted!*" They may perhaps account for the assertion by the supposition, that not only all American papers on the subject, but also the works of such British writers as BANCROFT and BOOTT, are ranked by the author of it among "inferior publications," and as such not only, as his prospectus tells us "excluded from his Bibliography," but also from his reading. Neither of these works are noticed in the Bibliography to the article "Epidemics," nor in that of "General Fever," though both of them, and especially that of Dr. Boott, are peculiarly appropriate to the former, and by no means inappropriate to the latter. As the article "Remittent Fever" is not completed, it does not yet appear whether they may not receive some notice under that title.

The survey of the fevers of the United States begins with the fevers of the southern states, then passes in review those of the middle states, and concludes with those of New England. It every where exhibits a great degree of industry and research in seeking out the best sources of correct information, and of ability in selecting and condensing them into a uniform and consistent and instructing history. This history, is chiefly a history of the epidemic fevers of the North American States; for the obvious reason, that it is only of the epidemics that any materials exist, sufficient for the construction of any thing like a connected history. Few physicians take sufficient notice of the diseases of their ordinary every-day practice, to record and preserve, still less to publish, an account of them. We have indeed a few exceptions to this remark, and the publications which constitute them are among the most valuable parts of our medical literature. But, in general, our published accounts of diseases refer only to those extraordinary periods when diseases have prevailed to such an extent as to assume more or less of an epidemic character.

It need not be supposed, however, that this circumstance materially affects the correctness of the history, in reference to the more ordinary diseases of the country. So far as the nature of its diseases is concerned, a history of its epidemics is probably a true history of all its diseases. That concentration of the cause of a disease which converts it from a sporadic into an epidemic, may also operate in the

individual cases to render them more severe; but it is not likely to change their character, so as to give rise to essentially a different disease.

The first epidemic noticed by Dr. B. in this survey, prevailed at Waynesborough, in the interior of Georgia, in 1802. It was a remittent fever, in some cases, entirely intermitting. As Dr. WHITE, from whose paper in the *New York Medical Repository* the account is taken, says of it, "It may be called a simple remittent; a bilious remittent; a malignant bilious, or a yellow fever. They are only different grades of the same disease, arising from the difference of constitution, and a diversity in the nature of the predisposing and exciting causes. I do not hesitate to declare I have seen since my settlement here, many well-marked cases of yellow fever, though the yellowness was not always an attendant symptom. At the distance of a hundred miles from the nearest sea-port, it is farcical to look for foreign sources of infection."—Vol. I. p. 307. Is this to *take for granted* the "passage of remittents into yellow fever?"

This account is followed by a notice of a similar epidemic in Augusta, Georgia, in the summer and autumn of 1804; then by a short notice of diseases in the British army near New Orleans, in 1814 and 1815, and in the American army in the same neighbourhood in 1809. For the purpose of exhibiting other examples of disease of acknowledged endemic origin, the author next presents us, though somewhat inaccurately, in reference to his geographical division, with accounts of epidemics at several places on the Ohio River, in 1796, 1797 and 1800, and several later years. The same purpose is pursued by giving an account of a fever on the Roanoke River in 1792, and at Greenville, on the Tar River, in 1800, both in the interior of North Carolina.

"In these observations of fever," he remarks, after quoting in some detail the histories of the several authors, "as it occurs in the interior of North Carolina, we find intermittents and remittents prevailing in the usual seasons, seldom fatal to the natives of the country, but more formidable to strangers,—typhus attacking the former in dry seasons, spring, or summer, sometimes epidemic, and referred distinctly by Dr. Pitt, to a concentrated marsh effluvium; and in the winter and spring, a continued fever, certainly of a specific kind, according to Dr. Williamson's observations, attacking those who have been afflicted with intermittents, and prevailing within certain limits, chiefly, perhaps only, in those places where people are subject to intermittents, in low sunken grounds and along the sides of rivers." Vol. I. p. 348.

He next turns to the sea-coast, and gives us from Dr. DE ROSSET, an account of yellow fever at Wilmington, North Carolina, and from Dr. NORCOM, at Edenton in the same state; and much more at

length from Dr. RAMSAY and Dr. JOHNSON, of the same disease, in different years, in Charleston, South Carolina. This is followed by a history of the same epidemic at Norfolk, Virginia; and at Alexandria and Georgetown, in the District of Columbia. At the same time that this disease prevailed in these two latter places, 1814, a similar epidemic raged at Winchester, Virginia, and Fredericktown, in Maryland, and many other places in the interior of that state, as well as of Virginia and Pennsylvania. This epidemic is compared with that of the sea-board, and the conclusion is irresistible, not in the mind of Dr. Boott merely, but with the authors of the several accounts, the actual observers of the disease as it prevailed under their care, that it was substantially the same disease with the yellow fever, as it prevailed in the cities on the coast.

The chapter on the fevers of the "Middle States of North America," is made up chiefly with accounts of the yellow fever at Philadelphia, in 1793, 1798, and 1802. These epidemics are too well known to all our readers, who have given any attention to the subject, especially that of 1793, by Dr. RUSH's most interesting history of it, to render it necessary for us to notice them in detail. With these, Dr. B. compares the yellow fever of Wilmington, Delaware, in 1798; and an intermittent and bilious remittent fever which prevailed extensively in 1804, in the interior of Pennsylvania, and several other of the middle and southern states. This last epidemic does not appear to have risen to the grade of yellow fever, but to have exhibited many of the same general characteristics, only in a milder form.

One circumstance is to be especially noticed here, in reference to our author's views of the cause and character of fever. In the more southern states, it had already been observed, the fevers in the summer and autumnal months, uniformly assume the intermitting or remitting form; and it is only during the winter months that those of a continued type are ever found. In the middle states, continued fever is found in some sporadic cases, even during the summer and autumn, in those years in which no extensive epidemic prevails. As we advance farther north, the prevalence of continued fever increases, and that of the periodical types declines, until in New England the latter appear only at rare intervals, in years of an extraordinary high temperature, by which the climate is for the time assimilated to that of more southern states. The development of this fact, going to show the identity of the cause of typhus fever, with that of intermittent and remittent fevers, is the leading object of the whole history. There is a remarkable confirmation of this view of the subject, in an occurrence, given on the authority of Dr. Rush, which took place in

Philadelphia in 1801. A number of emigrant families arrived at Philadelphia in August, from Ireland and Wales, and brought with them the ship, or typhus, fever. They were carefully attended at the Lazaretto and the City Hospital, and the disease did not spread. "Contrary to its usual character," says Dr. Rush, "it partook of the remissions of the bilious fever, probably from the influence of the season upon it." We must give Dr. B.'s remarks on this occurrence entire.

"The fact of the ship fever, or typhus of Great Britain, changing in the month of August, at Philadelphia, to a remittent fever, is too curious and interesting to be passed over in silence. Two explanations of this change of type may be offered."

"1. That the fever originating in Ireland, Wales, or on ship-board, from contagion, according to the commonly received opinion of the source of typhus, remained as such so long as no other remote cause of disease existed; but that, on the arrival of the patients in Philadelphia, they became exposed to the operation of malaria, which gave rise to a new type of fever, viz. the remittent."

"2. That the typhus, originally a disease of malaria, changed, on landing, from a continued to a remittent type, from the influence of climate, and of those circumstances which contributed to improve the condition of the sick, and consequently to restore them gradually to health."

"The idea of two distinct causes, viz. a specific contagion and marsh effluvia, uniting to produce a compound fever, has been entertained by Pringle and other authors; and it arose from the circumstance of fevers occasionally exhibiting the characters of typhus and marsh fevers,—beginning as the former, and ending as the latter, or the reverse; and from the belief that neither of the causes alone could give rise to the conjoined symptoms."

"If it can be shown, that in situations obnoxious to malaria, and where no source of typhus contagion exists, or can be reasonably suspected to exist, a fever appears, exhibiting the intermittent, the remittent, and the continued or typhoid character, and that the milder form passes into the more severe, or the severe into the milder, it is almost a necessary inference, that these types are effects of malaria, and consequently, no great surprise would be felt at the fact of typhus changing into a milder form of fever, from the sudden influence of such favourable circumstances as patients labouring under it on ship-board experience, when they are landed in a genial season, placed in clean and airy apartments, their wants and comforts zealously attended to, and their minds cheered by the termination of the voyage, &c. It is well-known that continued fevers have a certain duration; and that when once formed they must, under the same circumstances of situation, go through a regular rise, progress, and decline; and we could not, therefore, expect an immediate termination to the ship fever on its arrival in Philadelphia. But though it did not cease, it put on a milder character, or at least it remitted, so that the chain of febrile action was broken; and Rush admits that no proofs of contagion were manifested."

"I have already shown that typhus has appeared in different places in America, where malaria abounds, and where the periodical types of fever are the usual consequences; and I would especially refer to the epidemic at Wilming-

ton, and to the consideration of those slow nervous or chronic states of fever, which Rush frequently mentions as arising out of the yellow fever, or coëxisting with it. These I consider as very analagous to, if not identical with, the typhus of Great Britain; and if these indigenous fevers of America sometimes arise out of, or pass into, a periodical type, I see nothing anomalous in a similar fever imported from Ireland or Wales exhibiting a change from a continued to a remittent fever." Vol. I. pp. 490—492.

We might easily object to some of the views here presented, but we prefer to pass our objections by, and go on with the survey of American fevers. The fevers of the city and state of New York, furnish many favourable opportunities for a satisfactory investigation of the question as to their origin, of which our author has availed himself, with his usual ability. But for the reasons already given, in regard to those of Philadelphia, we need not follow him in his detailed examination of them. Most of our readers are too familiar with the subject, to require it of us; and those who would examine it anew, we refer to the work itself. We cannot, however, refrain from presenting the testimony of Dr. COVENTRY, which is referred to in this chapter, though quoted in another part of the work, as a specimen of the manner in which the "passage of remittent fever into yellow fever," is "*taken for granted.*"

"After my removal," says Dr. C. "to the flat country, called the Lake Country, I met with fevers, in which I often recognised the black vomit and intense yellowness described in the yellow fever. Acquainted with the diseases prevailing in the cities only through the medium of their newspapers, I had conceived the disorder raging there as one of a very different type, and resembling what I conceived to be the plague of the Levant, more than the epidemic that was so generally spread over the western district of the state of New York, and with which I had become so well acquainted, having in my own family, and subsequently myself, undergone the disease. But a visit to New York, in the autumn of 1805, undeceived me; for in that part of the city near the wharves, and bordering on the East River, I recognised on the first glance, the cast of countenance with which I had been but too familiar since the 20th of July preceding. It happened also that the most intimate friend I had in the city, resided in a low situation called Pearl street, and had remained there during the season. He had the yellow fever himself; also three of his family, two of whom were victims. It was conceded by the gentleman who attended this family, that these were genuine cases of yellow fever. I noted, from the reports of my friend, confirmed by the testimony of his physician, the symptoms; and found every one correspond with those of many patients who had fallen under my care, none of whom had been near the sea-coast, and most had never seen any thing larger than a canoe or small boat in their lives. After the most close attention, I was as fully convinced of the identity of this disease with the epidemic that had ranged along the margin of the western lakes, as I was of my own existence." Vol. I. p. 279.

The eastern states furnish but a few examples of the prevalence of yellow fever as an epidemic. In 1798, it prevailed to a considerable extent in New London, Connecticut; and in the same year, and also at two or three other periods in Boston, Massachusetts; and to a smaller extent in a few other places. Other forms of fever, however, have prevailed to a greater or less degree throughout New England. The history of these, so far as he could find materials for it, Dr. Boott has collected and compared. In this way, besides the accounts of the epidemics of yellow fever, already referred to, he passes in review, the diseases of Rhode Island, as recorded by Dr. WHEATON, those of Vermont by Dr. GALLUP, those of the northern army during the war of 1812, and many others. The general result of the whole investigation into the origin of the fevers of America is thus stated:—

“In taking, therefore, a general review of the diseases of North America, which owe their origin to malaria, we observe yellow fever almost annually epidemic at Vera Cruz, lat. $19^{\circ} 11'$; and that it gradually disappears in frequency as we approach the latitude of Boston, $42^{\circ} 20'$; that in the parallel of Philadelphia it often ends in typhus; that north of this line, typhus becomes the more frequent form of fever, till we lose all trace of yellow fever in Vermont, as a distinct disease, the symptoms of both, however, being sometimes blended in the same case; that both of them are attended, from the south to the north, with diarrhœa, dysentery, *cholera infantum* in the summer, and in the winter and spring with a pleurisy or peripneumony, which in the south is more decidedly marked, like the autumnal fever, with bilious symptoms; sometimes, as Rush observed in 1803, with a tendency to a tertian type; and in the north, having, like its fevers, a more typhoid character, sometimes approaching to the most malignant forms of congestive fever. It is highly interesting to observe, that when typhus occurs in those parallels of latitude obnoxious to yellow fever, it is towards the decline of that disease, as the cold weather sets in. In the north it occurs at the same season as yellow fever does at the south, though later generally, at least as an epidemic. Dr. Gallup says its greatest prevalence in Vermont is from July to September; but that it extends into the early part of winter, and sometimes till spring. This analogy with the typhus of Great Britain is important. It has been too confidently asserted, that the typhus of this country is confined to winter.”

“Of the causes which aggravate the fevers of cities, I think no impartial person can doubt, from the general contrast afforded, in this inquiry, between the epidemics of the sea-coast and those of the interior.

“The confined limits of the disease; its prevalence in low alluvial districts; the striking origin of the epidemic at New London; the coincidence of cause and effect in Boston and New York; the occurrence of fever on ship-board, under circumstances like those described by Dr. Burnett—all point to local causes of contaminated air; and this will explain the prevalence of fever in the close, crowded, and filthy part of the towns and cities of this country.

“That yellow fever cannot be considered a contagious disease, is proved beyond all question. It is not communicable by the sick, in domestic life or in

hospitals. The matter of black vomit has been swallowed, and applied to the body in a variety of ways, without any effect. We have seen that the typhus of New York and Boston, was as incommunicable there as yellow fever; and Dr. Gallup's experience in Vermont was uniformly against any thing like a contagious character." Vol. I. pp. 614—616.

Our readers will now be prepared to follow our author over a similar survey of the prominent febrile diseases of Europe. Here the range of country is much less extensive than that which we have gone over, and the influences upon disease, to be expected from differences of climate, are much less. But the length of time which the history embraces is much more extended, and the variations in the condition of the inhabitants in respect to the comforts of life, and to exposure to disease, are vastly greater; and hence we are not to be surprised if the forms and appearances of fever should prove to be more diversified, even although they should still be found to proceed from a common origin.

The most formidable of the early diseases of Europe is the plague; and with this Dr. B. begins his second volume. His purpose is thus stated.

"I shall examine some of the facts connected with plague, and see how far it can reasonably be considered a marsh fever. By this term I mean intermittent, remittent, continued, or mixed form of fever, arising from malaria, or, contaminations of air, aggravated in their effects by atmospherical influences, and considered under all its modifications as essentially one disease, variable in character, especially in different seasons, climates, and situations; desultory in the locality of its prevalence, generally obedient to particular seasons, its worst forms, arising more or less gradually out of the milder, or passing into them; generally attended with something unusual in the character of the year of its greatest virulence; and falling most severely on the lower classes of society, whose situation, habits and circumstances, favour its early development and diffusion among them." Vol. II. p. 9.

He first speaks of the plague of London of 1665. It may be asked what means we have of ascertaining the character and origin of that disease, other than the declarations of those who witnessed and have described it? It is apparent that SYDENHAM and his contemporaries who have written the history of the plague of 1665, regarded it as an imported disease, and believed that it owed its destructive ravages in a great degree to its contagious character. The question is asked, somewhat contemptuously, by Copland, "did the writers who lived subsequently know more of the matter than Sydenham and others, who saw the commencement of that plague, as well as its decline?"*

* Dictionary of Practical Medicine, p. 775.

The answer is easy. We do not rely upon any ancient author, nor indeed upon any author, for the peculiar opinions he may have expressed, but for the facts and arguments upon which those opinions are grounded, or rather for information on which to found our own. A peculiar bias of mind, or the prevailing notions of the day, may have influenced an author's speculations, and given a character to his opinions, which the facts he relates do not support. A subsequent writer therefore, having the advantage of the accumulated observations of later times in regard to kindred diseases, as well as the opportunity of comparing those of contemporaneous authors, may draw his inferences from the facts they have detailed, with a hope of coming to a right result in respect to its origin, better even than could well have been indulged by those who saw so much of its ravages. Especially may such a result be anticipated from a careful comparison of the history of its rise and progress with that of other diseases of acknowledged character and origin, which immediately preceded, and accompanied, and followed it. This is precisely what Dr. Boott has done with the London plague of 1665.

Intermittent and remittent fevers had prevailed in London for many years previous to 1665; and these were of so severe a character that the number of deaths ascribed to ague and fever, in the bills of mortality, from 1659 to 1664, amounted to from 2,107 to 3,490 in a year; and in the fatal 1665, the number attributed to this cause is 5,257. It was about the middle of this year, 1665, that the true plague began, or at least that it was recognised as such. It was at its height in September, continued in some degree through the winter, and disappeared the following spring. The number of deaths reported in the bills of mortality was in 1665, 68,596, and in 1666, 1,998.

In the spring of 1665, a few months before the plague made its appearance, *as plague*, an epidemic fever prevailed extensively, which Sydenham regards as of a different character from the fevers of several previous years, belonging to a different "constitution." It was a violent disease, and often fatal; and partook so much of the character of true plague as to be often called by Sydenham, the *pestilential fever*. "Whether it deserves to be entitled *a plague*," says Sydenham, "I dare not positively affirm; but this I know by experience, that all who were then seized with the true plague, attended with all its peculiar concomitants, and for some time afterwards, in my neighbourhood, had the same train of symptoms, both in the beginning and through the course of the disease." In his directions for the treatment, he classes this pestilential fever with plague, and re-

commends the same treatment for both. This is sometimes spoken of as "the malignant fever," and sometimes as the "spotted fever." It appears to have been recognised by this last name in the bills of mortality. In the tables of these bills, furnished by Dr. B., we find 1,998 deaths recorded by spotted fever in 1665. And from these tables it would seem not to have been regarded as a new disease in that year. A considerable number of deaths by it appear in the bills for a long series of years both before and after that time.

It will at once be seen, that the true character of this pestilential, or spotted fever, standing as it does in so close a relation to the acknowledged plague, is of great importance in ascertaining that of the plague itself. The descriptions of Sydenham and others, are not very full in regard to it. Yet it does not appear that he looked upon it as very different from the fevers which had preceded it, and he gives no intimation of any suspicion of a foreign origin; while the plague, according to HODGES, was imported in bales of merchandize from Holland. Dr. Boott regards this fever as substantially the same disease as the plague itself, differing from it only in the degree of violence with which its symptoms were manifested: in the same manner as yellow fever is a more aggravated form of the common bilious remittent, and like that, arising from a greater concentration of the same cause. This view of the matter is supported in a very able, not to say conclusive manner, by a history of the progress of the two forms of disease.

One of the ablest and most zealous of the advocates of the doctrine of contagion, Dr. Copland, has recently advanced a similar opinion in regard to the identity of this fever with plague; and it is not a little curious to see two men referring so confidently to the same circumstance for the support of conclusions so entirely opposite. "Upon a careful examination of SYDENHAM, BAYNARD, HODGES, DE FOE, &c." says Dr. Copland, "it is manifest that the malignant spotted fever, said to have been prevalent at the commencement and decline of the plague, was actually this distemper, reported as this fever for the purposes of concealing its existence; and that where this fever actually existed, it was one of those forms that plague very commonly assumes, especially during low ranges of temperature, as at that season."*

We might here retort upon Dr. Copland his own question, whether "subsequent writers know more of the plague than Sydenham and others;" especially as this point refers to the character of the disease

* Dictionary of Practical Medicine, p. 776.

which was the subject of immediate observation, and not like the other question, to a matter of general inquiry. But we are too well pleased with the opinion itself to quarrel with the author of it, about the inconsistency of his opinions. We may ask, however, if this spotted fever were the true plague, what becomes of the importation of plague from Holland, in the summer of 1665? And if plague were called spotted fever merely for the purposes of concealment, why was the latter designation continued, after the former had become recognised and acknowledged? Still more confidently may we ask, what becomes of the contagion of plague, since this form of it continued to prevail in London every year from 1647 to 1728, and to occasion a considerable number of deaths each year? Indeed this question may be asked with great force, in regard to acknowledged plague. That disease had existed in London, and been distinctly recognised as such in the bills of mortality, nearly every year for almost a hundred years. Yet it had prevailed extensively as an epidemic only in a few years, generally at distant intervals; and it never appeared as such after 1666, although it prevailed extensively in some parts of England, for several years later. If so contagious, why should it have ceased so suddenly? Not, Hodges tells us, for the want of subjects. Nor was it for want of free communication between the well and the sick. For we are told, that although the alarm was great at first, it speedily subsided, and there was afterwards great fearlessness in respect to intercourse between them.

The truth appears to be, that the two forms of disease were indeed essentially the same in character; and that a distinction was made between them, not as Copland supposes, for the corrupt purpose of deception, but because the minds of the several authors who described it were so impressed with the notion of the necessity of contagion to make up the character of true plague, that they were unwilling to give the name to a disease so obviously indigenous, and to which no appearance of contagion attached itself. How often have we seen the same sort of distinction attempted in our own day, in regard to yellow fever, with scarcely any pretence of any difference of character as exhibited by the phenomena of the disease, and resting exclusively upon a supposed difference of origin.

The conclusion to which our author arrives in this part of his subject, may be seen from the following extracts:—

“Since 1670, the decrease of fever,” in London, as shown in detail by a table, which we have not room to copy, “has been progressive from 3,423 to 932 annually, a mortality very inconsiderable, considering the amount and the quality of the population. Bowel complaints,” as appears from the same table,

“have steadily decreased since 1670, and the disproportion in modern times, 20 to 2,966, is certainly a most remarkable fact. Heberden justly insists upon this as an evidence of an endemic cause of disease during the seventeenth century, when plague was almost annually present in London from 1603 to 1679. I had intended to have offered his cogent reasoning on this subject, but I shall content myself with referring to his valuable paper.* It is singular to observe the state of his mind and that of Hancock, after their investigation into the probable origin and progress of fever, and to contrast their evident doubts and cautious inferences with the dogmatical assertions of those who take no trouble to inquire into the subject. It is very evident that both these excellent men more than doubted of the introduction of any foreign contagion as the cause of plague; which even if admitted to be possible, on the shallow evidence that is brought in its support, cannot account for the previous existence and the simultaneous increase of other diseases, to say nothing of the absence of any new importation since 1679, notwithstanding the notorious frequency of plague in the East, and the constant and increased communication with it, especially of late years, since cotton has become an article of import from Egypt. If quarantines have saved us, how comes it that plague has never appeared in those establishments? And if contagion could act as the cause of an epidemic, why was not the tragedy of 1593, 1603, 1625, 1636, and 1665, acted over and over again, especially in years when there died in London from 600 to 4,240 of plague?” Vol. II. pp. 78, 79.

“That plague in those years in which the mortality was trifling, was but the peculiar aggravation of the ordinary fever of London, is, I think, apparent from the limited amount of the disease. In speaking of the pernicious fevers of Italy, as described by Torti, I have remarked, that the peculiar cases of aggravation which are met with in any one epidemic, are sometimes found to predominate in particular epidemics; and plague is a proof of the fact, for, like the occasional examples of yellow fever, of dysentery, and choleric fever, scattered in sporadic cases through epidemics generally of a common remittent character, we find equally sporadic cases of plague in the epidemics of the fevers in this country; and occasionally these diseases at other times predominate over all other forms, and the other fevers are then the exceptions to the prevalent yellow fever, dysentery, cholera, or plague. Upon what this depends it is impossible to surmise; though I see no difficulty in conceiving, that if the ordinary causes of fever can produce scattered examples of yellow fever in plague in some years, they may produce them generally in others, without the necessity of resorting to the forced supposition of an imported contagion. This, I think, must be abandoned with respect to yellow fever and typhus; and I cannot see how, consistently, it can be maintained with respect to plague, nor can I imagine that the doctrine of a contagion, *sui generis*, is applicable to either of the diseases.” Vol. II. pp. 80, 81.

Dr. Boott next proceeds to speak of plague, as it has been described by different authors, “tracing it from south to north, with a

* “Observations on the Increase and Decrease of different Diseases, by W. Heberden, Jr., M. D. London 1801.”

view to observe whether temperature has any modifying effect upon it, analogous to what we observe in marsh fever." ASSALINI, who accompanied the French army into Syria in 1799, describes what he calls "an epidemic fever," which attacked the troops engaged in that expedition. He seems to have given it that term, for the same reason that we have before noticed in regard to others. Having imbibed the notion, that the plague is necessarily a contagious disease, he was unwilling to give the term to a disease which obviously did not possess that property; although he says, that from the havoc it caused, it was called the plague. From his description of the disease too, it is impossible to distinguish it from plague as described by others. The severe cases were accompanied by buboes and carbuncles, although these were sometimes wanting. But this is no more than what has happened in other epidemics of plague. As Dr. B. justly remarks, it may be seen from the facts that he states of plague, that, "it is a disease which owes its fatality to the symptoms common in other modifications of fever; and that abstract those conditions dependent on fever, and consider it merely as an eruptive disease, and its formidable character disappears."

Assalini's description of the symptoms of this fever is not very particular, and it does not appear whether it remitted, or was strictly continual. But the plague of Aleppo in Syria, of 1742 to 1744, as described by Dr. RUSSELL, was preceded and accompanied, and followed by a fever, analogous it would seem, to the spotted fever of London, which often was a true intermittent. It is curious to see in the mind of Dr. Russell, the same bewildered distinction between this fever and plague, which we have before repeatedly noticed, founded upon the assumption of the necessity of contagion to the character of plague. Yet the different forms of the disease were so blended together, as to render it impossible to distinguish them by the symptoms. For example, in 1743, "autumnal intermittents became frequent about the beginning of August, got to their height in September, then gradually decreased, and disappeared at the close of the year." These fevers at the beginning, often assumed for a few days a continued form, with violent and irregular symptoms, *not unlike those of the plague*; but after bleeding and purging, they reassumed their genuine forms of tertians, double tertians, and quotidians, and were cured by bark. The next year, intermittents existed from the middle of March to the beginning of May. "In June, July, August, and a part of September, *a malignant fever prevailed, attended with much the same symptoms as the plague*, buboes and carbuncles excepted." "The cure was much the same as in the

plague, only that the sick bore a second bleeding better." From June to December, autumnal intermittents were very frequent. They did not, like those of the preceding year, begin with the appearance of a continued fever; but unless they were earlier cured by bark, they were apt after the seventh day to intermit no more, but to run out under a continual form to the fourteenth or twenty-first day, unless fatal at an earlier period.

Another strong analogy between the epidemics, of which the plague forms a part, and the fevers of America of acknowledged indigenous origin, on which Dr. B. insists with much force of argument, is found in the similar character of the diseases which prevail during the colder portions of the epidemic periods. He had before shown, although in the conciseness of our analysis we may not have noticed it with sufficient prominence, that during the autumn and winter and spring of those years in which yellow fever was epidemic, diarrhœas and dysentery and peripneumony were unusually prevalent. The same was true at the time of the plague in London, particularly in the memorable winter of 1665-6. And we find the same diseases mentioned among the spring epidemics of Syria.

To contrast the plague of Egypt and Syria with the same disease in a more northern latitude, Dr. B. quotes that of Nimiguen in 1636, described by DIEMBROECK, in which the fever was generally of a continued type. We need not, however, follow him in this examination, as we have done in those which preceded it. Our readers will, by this time, have seen with what ability and industry, and we think we may add fairness, he has investigated the different epidemics under examination. In one particular, however, they will do him great injustice, if without any qualification they were to found their opinion of his work upon the analysis of it which we have presented. Our extracts and remarks have had chief reference to the topic, which may be considered indeed as the leading subject of the work—the origin and cause of fever. It would have led us too far, and extended this article much beyond its proper limits, to have noticed at the same time the rich information with which these volumes abound, in regard to the particular character of the diseases which they describe, and the phenomena exhibited by them. In this point of view, a high value and interest must attach to the work, independently of its influence upon the long agitated question of the contagion of diseases.

Dr. B.'s notice of the celebrated plague of Marseilles of 1720, which has been so much relied on in proof of the contagious character of the disease, is brief, but is marked by his usual research and

ability. The result to which he arrives, may be seen from the following extract.

After an examination of the circumstances which were said to accompany the introduction of the disease, as related by different authors, he says—

“The inference that the plague was not owing to contagion, is supported, 1st, by the fact, that cases probably occurred in 1719, but certainly in April and May, 1720, before the ship arrived from Syria, which was accused of bringing the contagion; 2d, by no disease having been communicated, to all appearance at least, at Leghorn, where she touched on her passage to Marseilles, and where three of her crew died; and 3d, by the plague itself, in many cases, not differing from the usual endemic fevers of the south of France, excepting in the frequent, but *not invariable* occurrence of the bubo or carbuncle.” Vol. II. p. 246.

Our author next turns to the ordinary forms of fever, tracing them in the works of some of the more distinguished medical authorities, from Italy and the coast of the Mediterranean, through Paris to Great Britain.

“It will be found,” he says, “that the periodical type is almost universal in the south, and that the continued is the representation of the same disease in the north; that if the last ever distinctly occurs in Italy, or the first in Britain, they are *exceptions to a general rule*.”

He first gives a sketch of the fevers of Italy, from the works of TORTI and LANCI; and then an account of the petechial fevers of the same country, from FRACASTORIUS, SARCONE and ACERBI.

“The work of Torti,” he remarks, “is especially valuable for the minute details of the protean forms of marsh fever, though his observations were made in too southern a latitude, viz. at Modena, lat. 44° 34', for the unmixed form of continued fever, as it occurs generally in Britain, to have been presented to his view. He considered that all the varieties, from the mild to the most malignant intermittents, and from these, with distinct intermissions, to the continued form of fever, were modifications of one disease; and he fully verifies the accuracy of Dr. Armstrong's observation, that the types of fever pass and re-pass into each other; that inflammation, as an internal condition, forms, to all appearance, no part of the intermittent type, and that its supervention is one of the circumstances which gives rise to the continued form. He also shows, what I have endeavoured to exemplify in the sketch of the fevers of America, that temperature has a marked influence on the type of fevers, their tendency to the continued form increasing as the cold of autumn deepens into winter.” Vol. II. p. 250, 251.

Of the petechial fevers of Italy, he says—

“It is evident, that the modern Italians consider it identical with the typhus of Britain, and perhaps uniformly ascribe its origin and diffusion to contagion. I refer those who are curious as to the history of the disease, to the second

chapter of Acerbi's work.* I shall content myself with offering proof, that in Italy it is the aggravation of marsh fever, and distinctly arising out of the periodical type; a mode of development which harmonizes with what I have advanced of the influence of high temperature, and with the agency of malaria." Vol. II. p. 329.

To give in detail the several facts and arguments by which the author illustrates and supports these several positions, would demand much more copious extracts from his work than our limits will permit; we must content ourselves therefore with having presented his own conclusions, and refer our readers to the work for the proofs by which he sustains them. We have already exhibited too much evidence of his elaborate research and sound reasoning for them to doubt that he has powerful, if not satisfactory and conclusive grounds for his positions. With the same remark, we must pass over the sketch of the fevers of Malta and the Ionian Islands, taken chiefly from HEN-NEN'S Medical Topography of the Mediterranean, and that of the Fevers of Minorca from CLEGHORN. An examination of them, that should be of any avail, would require more of details than we have left ourselves room for.

Indeed, we must extend the remark still further to our author's examination of the typhus of Paris and of that of Great Britain. It does not admit of condensation, so as to be presented in the form of an abstract, without entirely destroying its value. We could wish to present to our readers his analysis of LOUIS' observations and researches in regard to the pathology of typhus; but we cannot enter upon it at the close of so long an article. We are not without the hope of returning to this part of the subject at some future time, especially if we shall find the means of comparing the observations of that great man with the results of similar researches in regard to the character of that disease in other places.

We cannot conclude without repeating the remark, that our readers will greatly mistake, if they should infer from our notice of this work, that it is limited to the establishment of a particular hypothesis. It is truly a general history of febrile epidemics, abounding in information of the most valuable kind, and narrated in a harmonious and pleasing style. We are well aware, that a history designed to illustrate opinions previously adopted, is liable to be drawn aside into partial views of the subjects of which it treats. But we have in the history before us, constant marks of candour and fairness, sufficient to set our minds at rest, in respect to any intention of mislead-

* "Dottrina del Morbo Petechiale. F. E. Acerbi. Milano, 1822. pp. 132."

ing us; and if we suppose our author to be sometimes insensibly influenced as to the weight of his authorities, by his preconceived opinions, the abundance of the details which he presents us, affords a ready corrective to the supposed partiality. Independently of the peculiar views which these volumes are designed to support, they have brought together a great mass of information of inestimable value, which it would be quite impossible to find elsewhere, except indeed by the same laborious process as that to which the author has himself resorted.

E. H.

ART. XI. *Rapport et Discussions à l'Académie Royale de Médecine sur la Taille et la Lithotritie, suivis de Lettres sur le même sujet.* Par MM. DELMAS, SOUBERBIELLE, ROUCHOUX, CIVIALE, VELPEAU. 8mo. Paris, 1835. pp. 194.

IN the last number of this journal we offered some remarks on the work of M. BLANDIN, entitled *Parallele entre la Taille et la Lithotritie*, and we ventured to intimate, that with all its avowed candour, the author was evidently somewhat of a partisan. Nothing could tend to show the powerful, we might almost say violent party spirit at present prevailing in Paris, between the defenders of the two modes of operating to which we have alluded, than the debate in the academy, on the report of M. Velpeau.

Four long sessions were occupied in discussing, we know not precisely what—for the question at issue is nowhere defined with clearness. The debate winds up with “conclusions in which nothing is concluded”—for the report was finally adopted amid “incredible tumult,” and numerous protests against the manner of voting; M. LISFRANC demanding that the question should be put again at the succeeding session. There was much sharpness of retort and some little personality displayed in the debate, and among other after results, we may notice a warm discussion between MM. Velpeau and Civiale, of which we discover, as yet, but the *beginning of the end*. The damps of three thousand miles of ocean have a wonderful effect in cooling the warmth of an argument, and we shall endeavour to extract some few facts and conclusions from the several sources above enumerated, in order to illustrate the opinions at present entertained in France on the value of lithotripsy.

The memoir of M. LEROI contains the history of five cases in which the operation of lithotripsy was performed by him on children

at a very early age. The abstract as drawn from the report is as follows:—

1st case—a child of four years. *Stone* nearly an inch in diameter. It was very fragile, but required six operations for its removal. *Accidents.* Two fragments, at two different times, became engaged in the urethra, occasioning “a great deal of suffering.” *Result.* Cure. 2d case—age five years. *Stone* about the same size, destroyed by five operations. *Accidents.* None mentioned. *Result.* Cure. 3d case—age not noted. *Stone* about the size of a filbert, partially engaged in the urethra; seized and broken with forceps with three branches. *Accidents.* On the morning following the first operation, a fragment passed the prostate gland, became arrested in the urethra, and caused “violent pain.” Two days afterwards, another fragment was arrested in the same manner and produced the same consequences. It was repulsed with “infinite difficulty,” nor was it broken with less. *Result.* The child ceased to suffer, but as the patient was unmanageable, the cure could not be rendered certain by sounding. 4th case—age four years. *Stone* very small, and broken twice with great ease, the child being admirably manageable. Four operations are noticed in the report. *Accidents.* At the third operation, a portion of the forceps remained in the bladder, *a fact only known to the operator*; this was removed a few days afterwards by means of another forceps. A fragment of the stone was engaged at the same time in the urethra, and could not be pushed back immediately. *Result.* M. DUPUYTREN took charge of the patient, pushed back the fragment, and performed the bi-lateral operation. The patient was thus cured. 5th case—age three years. *Stone* three or four lines in diameter. *Accidents.* None. *Result.* Cure after two operations.

M. Leroi, on this evidence, decides in favour of the possibility, but against the utility of lithotripsy in young children, except when assured that the stone is small. M. Velpeau coincides with him fully in this opinion. We should go further, and object to the exception, believing that the attempt to *assure* ourselves of the size of calculi in the bladders of young children by means of any instruments known to us, would be little, if at all less dangerous than the operation of lithotomy, without proving always successful. *There are some questions in surgery which may be solved on plain principles of common sense, without the necessity of painful experiment.* But we anticipate.

M. Velpeau, not content with seconding the opinion of M. Leroi on this narrow question, has dared to open a wider field of discussion. He has attacked, in his report, the validity of the evidence

in favour of the general utility of lithotripsy, stating in good round terms, that the plan of breaking the stone deserves infinitely less eulogy than is generally bestowed upon it at present, and that in ten years from the present time, it will be practised much less extensively than at present.

“That which has given so much importance to lithotrity in the eyes of the world, is the fear of cutting instruments. It is the same fear that has made the fortune of caustics; of the *cura famis*; of compression in the treatment of cancers; of antiphlogistics, leeches, and divers highly praised local applications in lacrimal tumours,” &c.

“Is it *pain* that they pretend to avoid by lithotrity? *The operation of lithotomy occasions infinitely less!* The same is true with regard to the duration of the operation, the danger of relapse, &c. If then lithotrity is a happy conquest of modern surgery, it must remain nevertheless, a method simply exceptional, when compared with lithotomy, after human reason shall be permitted to define its natural limits. Not only in children, but in adults also, it is attended by greater inconveniences than lithotomy whenever the stone is very hard or exceeds in size a walnut, (*gros noix*,) and when the patient has not too great repugnance to the latter operation.”

After regretting the hallucination which he thinks prevents the lithotritists from perceiving the just weight of their own experience, M. Velpeau proposes two plans for estimating the relative value of the several methods. First, by comparing the mortality of calculus before and since the introduction of lithotripsy. “The work of M. Blandin, who alone has had the temerity to do so, proves already that in this point of view, experience pleads incontestably in favour of lithotomy.” Secondly, by comparing the results of two equal groups of selected cases, in circumstances as nearly similar as possible, but treated on the two contending systems.

The report being presented, the academy commenced the discussion on the 5th of May. But one of the speakers, M. SEGALAS, attempted to defend the operation of lithotripsy in children; the main feature of the report passed therefore with very little opposition, and the debate took the wider range, which the bold, sweeping charge of M. Velpeau was calculated to provoke.

The principal speakers in opposition to the report were MM. AMUSSAT, SEGALAS and LISFRANC. Those who defended it with most warmth, were MM. VELPEAU, SANSON, SOUBERBIELLE, and PELLETIER du Mans. M. ROUX held a station somewhat like that of moderator. We have availed ourselves in the following remarks not only of the publication which stands at the head of this article, but also the reports of the same debate in the *Gazette des Hôpitaux*, which contains a few remarks which have escaped attention in the

former. M. Amussat, who led the opposition, admitted that there was some ground for the charge of *exaggeration* made by M. Velpeau against the reporters of operations for lithotripsy, an operation which he did not advocate exclusively. But it is evident that he considered the exceptions rare, the operations improving, and that it promised to displace its antagonist in a vast majority of cases. He attacked also the statistics of M. Blandin, alluded to by the reporter, and advanced the opinion that it was impossible at present to obtain available details of this character because of the war existing between the partisans of the two methods. The other remarks of M. Amussat are rather ingenious than forcible—the mere opinions of BOYER and DUBOIS, however justly distinguished in their profession, are of less significance in a question of this character than the results of a few well observed cases, nor is it much more important that two eminent surgeons should have been preserved to society by lithotripsy while it continues debateable whether they would not have been saved with less risk by lithotomy.

M. Velpeau proceeded to state the accredited results, upon which were based his conclusion that the mortality from calculus in the hands of the friends of lithotripsy was greater than followed in the hands of the lithotomists. From this statement it appears that neither M. AMUSSAT, M. LEROI D'ÉTOILLES, nor HUERTELOUP have ever published complete accounts of their results, and their success or failure in selected cases should weigh but little in a general question. There remain the summaries of MM. CIVIALE and BANCAL, together with certain private information communicated by M. Leroi, but which M. Velpeau did not feel warranted in stating, and some data of more ancient date. The evidence furnished by these is far from favourable in the opinion of M. Velpeau. He stated that of eighty-three cases *operated on* by the most able lithotritists, forty-two were cured, thirty-eight died, and of the forty-two cured, nineteen had serious accidents—a result which he acknowledged was “very different from that which appears on the face of the tables, (Raport Larrey.)” We shall speak of the causes of this discrepancy hereafter.

This terrible mortality, amounting to one death in a little more than $2\frac{1}{2}$ cases, will doubtless startle the reader! but the defenders of lithotripsy remark, that the operation has been vastly improved within a few years, and that it is unfair to include the earlier cases in a comparative estimate. M. Velpeau replies, that of twenty-four patients subjected to this operation at l'Hopital Necker, fourteen are cured, eleven are dead! Of forty-three (45?) operated on since

that period, fifteen are dead, thirty are cured; ten other cases retain their stone. Of thirty cases published by LEDAIN, in the *Gazette des Hôpitaux*, four retain their stone, eight are dead, and eighteen cured.

Rejecting the evidence of Bancal's report quoted by M. Velpeau, but evidently of no fair value in the premises, and the results drawn from M. Civiale, about which there is a warm dispute, which we must discuss in the sequel, we have still remaining sufficient data to show an apparent mortality of more than one in three!

A catalogue is then given of results in lithotomy, drawn from various authorities in Europe and America, which give results as follows. In England, the Continent and America, 5,873 cases of stone. Proportion of deaths one in a little more than eight.

A careless observer might well consider the question of the relative merits of the different methods decided, after such an expose as is given above; but let us take a single tabular result from the other party, and there are several such. M. Lisfranc, quoting the article of M. Begin in the *Dictionnaire de Médecine et de Chirurgie Pratiques*, states that M. Civiale lost but five cases out of two hundred and forty-four treated by lithotripsy! which after rejecting three cases in which the stone was not effectually removed, gives the proportion of 1 death in $48\frac{1}{3}$!

On the one hand M. Velpeau, drawing his information not from the tabular view of M. Civiale, but from his detailed cases and the report of M. Larrey, presents us with the following picture of the result just noticed. Total of cases two hundred and forty-four. Cured one hundred and thirty; dead or retaining the stone one hundred and fourteen! On the other, M. Civiale, in his letter, taxes M. Velpeau with misinterpretation, or neglect of the most important documents, furnished by him to the academy; while in the debate M. Amussat attacks the validity of the statistics brought forward in defence of lithotomy. How shall we explain this disagreement? The question must be met.

We are in the habit of placing the most implicit faith in the facts avowed by the learned and most industrious reporter, and we see no reason to question them in the present instance; but we are in the habit of weighing them strictly. More than once in the course of the debate, the imperfection and exaggeration of the reports of lithotomy are acknowledged by M. Velpeau, but he defends the propriety of meeting one exaggeration by another. He says, *and proves too*, what is so honestly acknowledged by M. Amussat, that the lithotripts present their facts in false lights, and found upon them inaccu-

rate conclusions in favour of their peculiar method, (*Vide Bulletin in Gaz. des Hop. May, 1835.*) The same charge is obviously true with regard to the lithotomists, and M. Velpeau acknowledges its truth with regard to the data employed by him, finally relinquishing any proportion of deaths in lithotomy founded on his tables, and adopting one against which none of his antagonists can object; namely, one death in four cases. But in his statements of conclusions drawn from the documents of the lithotritists, his partisan leaning is still strongly obvious. He speaks as a debater, not as a philosopher. He states, with the evidence within his reach, that M. Civiale cured but one hundred and thirty cases after two hundred and forty-four operations, while that surgeon claims two hundred and thirty-six cures. How many of those one hundred and thirty cases died, according to M. Velpeau? We are not told. How many deaths resulted from causes not connected with the operation? We know not. How many failed from defect of instruments or imperfect methods of operation, from the disobedience of the patient, &c. &c.? All is dark! Of what value then is such evidence in settling the general question of the comparative merits of the contending methods? We answer unhesitatingly,—none whatever.

The contest between MM. Velpeau and Civiale growing out of this debate has just commenced. What light it may hereafter produce cannot be foreseen, but at present it does not tend effectively to illustrate the main question. The work of M. Blandin noticed in our last number, leaves it equally undecided, notwithstanding the assertion to the contrary contained in the report. The adoption of the latter by the academy after such a warm contest, shows only that in the opinion of a learned body in France, the advantages of lithotripsy have been somewhat over estimated by its partisans, without establishing its relative importance.

In closing our remarks upon the report of M. Velpeau, and the debate to which it gave origin, we will endeavour to enumerate the deductions which may be fairly drawn from them, and which are not devoid of importance.

1st. It is conceded on all hands that when the bladder and urinary passages are in a healthy condition; when there is no contra-indication from visceral or other disease; when there exists but one stone, and this is not very hard or rugose; when the calculus is not larger than a walnut, the patient being an adult, and when the operator has great mechanical skill combined with professional tact, and a thorough acquaintance with the operation, in preference to lithotomy, lithotripsy—*ought to be attempted.*

2d. If there be a plurality of calculi, within certain limits, the other circumstance remaining the same, lithotripsy is equally proper. This is a corollary of the last proposition.

3d. That in all cases, where the urinary organs are healthy, or nearly so, and when the simple methods of sounding employed before all operations in calculus fail in detecting an unusual hardness or size of the stone, it is warrantable to employ lithotritic instruments in the endeavour to ascertain its character.

4th. That examination by lithotritic instruments may render a patient insensible, (Roux,) or may involve his life, (Velpéau;) hence the comparison of equality made by M. Rouchoux, between this species of examination and simple catheterism, is unjust in the highest degree.

5th. That the slightest operations in surgery, such as staphyloraphy, or suture of the perineum after rupture in delivery, *may* produce fatal consequences; hence simple sounding is not *altogether* devoid of danger. (Roux.)

6th. That the operation of lithotripsy is sometimes attended with so little pain, as to be likened, by a patient who had been frequently subjected to it, to the extraction of a tooth. (Amussat.)

7th. That it may be regarded as questionable, whether the average amount of pain suffered in operations for lithotripsy, employed on the recent extensive scale, is in any degree less than that of lithotomy.

8th. That it is *at least* questionable, whether the serious accidents following lithotripsy are not more numerous than those following lithotomy.

9th. That it is not possible to determine with absolute certainty the completion of the cure in lithotripsy, but the proof of the removal of the last fragment may amount exceedingly nearly to certainty. (Lisfranc.)

10th. That the dangers of the operation may be much diminished by previous general treatment in some cases, and the pain may be sometimes lightened by previous catheterism, but this is not always the case, for the tenth session may be more painful than the first. (*ib.*)

12th. That it is impossible to determine by any statistical accounts now on record, the relative importance or success of the two methods, or to determine the same question by the first method proposed in the report.

13th. That the objection advanced by M. Amussat against the second method of ascertaining this point; namely, the cruelty and inhumanity of the test, is a *petitio principii*, and devoid of weight.

14th. That a comparison of success between an equal number of grave cases of calculus treated by the two methods, would be an injustice to the claims of lithotripsy; that a group of mild cases similarly employed would produce results unjust to lithotomy, and if a group of cases of a middle character were chosen, which would be accomplished with difficulty, the result would be an approximation to truth, dependent for its value upon the multitude and minuteness of observations *faithfully reported*.

These conclusions are all that we think can be fairly deduced from the academic debate, except one, which we shall notice hereafter; but if we may be permitted to include in the survey the correspondence mentioned at the head of this article, and the work of M. Blandin, already involved in the discussion, we should feel fully warranted in representing both the contending methods as still in their infancy. While the different lithotritists are contesting the merits of each other's instruments, (Velpeau,) and the various lithotomists, the claims of their several incisions, how can either method be regarded as even approaching perfection? We, therefore, think it quite possible, that an era may arrive, in which lithotripsy will enjoy a much higher rank among surgical operations than it can fairly claim at present. We may say the same for lithotomy. There is nothing in surgery incapable of improvement, and M. Velpeau's prediction, that lithotripsy will be held in much less estimation ten years hence, may yet fall to the ground.

Much was said, during the discussion, of the value of statistics in surgical questions of this character. They are, as M. Roux remarked, *of some value*, but the extent of that value depends upon the fullness of the details, and its depreciation, upon the misapplication of the evidence. If we dared to draw our conclusions of the relative merits of the two methods of treating calculus from the evidence within our personal knowledge, they would be considerably more favourable to lithotripsy than those of M. Velpeau. Of fourteen cases treated by lithotripsy by surgeons of our acquaintance, one died by causes totally foreign to the operation; one was subjected to an attempt which failed, owing to the excessive pain it occasioned, and the patient was afterwards cured by the lateral operation; and twelve were cured. The result of fifty-two cases of lithotomy in the Pennsylvania Hospital, as given in the table, (p. 97,) of this number, gives a proportion of 1 death in $7\frac{3}{7}$. It should also be remarked that the lithotritic instruments employed in the two first mentioned cases were of American manufacture, in some respects peculiar, and since judged imperfect. Eleven operations performed by Dr. RANDOLPH, of this city, have all

proved successful. In proof of the danger of the misapplication of statistical details, we will merely observe, that the table to which we have referred, establishes the fact that the mortality from lithotomy at the Pennsylvania Hospital, from 1756 to 1802, was 1 in 13 cases; from 1802 to 1822, 1 in $7\frac{2}{3}$ cases; and from 1822 to 1832, 1 in 5. Yet those who know any thing of the institution would smile at the idea that these circumstances argued either a deterioration in the skill of the operators, or in the modes of operating.

A few words on the correspondence between the reporter and M. Civiale, and we shall close our remarks for the present.

It will be recollected that according to M. Velpeau, but one hundred and thirty cases were cured by the operation of lithotripsy, as performed by M. Civiale on two hundred and forty-four patients. The latter surgeon in his letter, which must be regarded as still higher authority than the report of M. Begin, already quoted, insists on the truth of the following statement. Number of cases operated on by lithotripsy since 1824, 244; cured, 236; deaths, 5; continue to suffer, though no longer labouring under stone, 3.

This monstrous discrepancy is greater than can be fairly explained by the acknowledged party leaning of the two observers. The charge of intentional misrepresentation is defeated at once by the high character of the opponents; and that of culpable ignorance of the documents, advanced by M. Civiale against M. Velpeau is utterly overthrown by the acknowledgment of the latter in his reply.

“At the academy, M. Civiale might have assured himself that if facts have been altered, it has not been by me; and that I am also acquainted with the memoir which he has inserted in the fasciculi of the academy, and it is precisely because he has taken the precaution to publish all his observations, that I have arrived at results in figures so different from his.”

How then is the discrepancy explained? We have devoted no small care to the solution of this question, confining ourselves to the evidence before us. It appears pretty evident that M. Velpeau has founded his calculations upon the whole amount of evidence produced at various times before the academy, &c. including all the communications of M. Civiale, his publications, clinical records of hospitals, private letters, verbal information, personal experience, &c. &c. The public is furnished with his conclusions, but with only a part of his data.

As it regards the question at issue with M. Civiale, it seems that he has selected from the cases reported by the latter surgeon, two hundred and forty-four observations in which the operation of lithotripsy was, *in his opinion*, performed. The character of the commen-

tator is a sufficient guarantee for the fact, that of *these* two hundred and forty-four cases, but one hundred and thirty were *cured*. But there is an important breach in the chain of evidence. We are nowhere exactly informed what M. Civiale regards as a lithotritic operation, nor are we made certainly acquainted with the circumstances which he considers as a sufficient proof of cure. M. Civiale has defined what *he* considers an operation. "I have said, in the last fasciculus of the academy, where the exploration terminates, and where the operation begins."—*Letter to the Academy*.

The last fasciculus has not yet reached us, and we can only infer the opinion of M. Civiale, from the following passage in his letter, and from the remarks of M. Velpeau; but the inference is very plain.

"As to the pretention which has been advanced in some writings expressly designed to depreciate lithotripsy; to consider as real operations the preliminary examinations that are necessary to determine the condition of the patient, and to ascertain whether the operation can or cannot be performed; if any thing could surprise us, it is that this pretention should again make its appearance in the academy." *loc. cit.*

It is evident, from these passages, and the conflicting statements of the parties, that the two hundred and forty-four cases of operation, chosen by M. Velpeau, from the returns of M. Civiale, even if the acknowledgement of the former to that effect had been wanting, are not the same two hundred and forty-four cases acknowledged to have undergone the operation by the latter surgeon. We have then two series of observations reëntering and becoming confounded with each other at various points, and the conclusions drawn from one series can be of no value in estimating the accuracy of the other; the very attempt to use them for such a purpose is to a certain extent unfair.

The next question of any interest to the profession, is the value of the tabular result of each of these series considered separately, as elements of statistical calculations. That of M. Civiale's report, hangs on the validity of his definition of a lithotritic operation, and the nature of the manipulations exercised upon those patients whose cases fall without the definition. Let us hear M. Velpeau on this subject.

"As for myself, I have made use of the facts published by M. Civiale, thinking it impossible to draw them from a better source. Nevertheless, seeing that we build on the same foundations, how comes it that we differ so widely in our calculations? M. Civiale positively refuses to admit, that the examinations, the attempts that are made to recognise the existence of the stone, to seize it, or to break it with instruments, should be considered as operations. This is an

idea that we find in all his writings. Let us see, now, the nature of these preliminaries. The litholabe, the brise-pierre, or the purcussor, are introduced into the bladder, where one extremity is made to move about, in order to ascertain the existence and the situation of the stone. Then the instrument is opened; the branches are separated, to seize or embrace the foreign body, and to ascertain its dimensions and its form. Finally, an attempt is made to perforate, to crush, or to break in pieces the stone, by acting on the other extremity of the lithotritor, which is large and straight, in the urethra. It is repeated one, two, or three times, at intervals of a few days. It may now, perhaps, be demanded of me, in what respect the operation differs from these preliminaries. Truly, I know not! It has always appeared to me that, *once in the bladder*, the instruments expose the patient to as much danger when they manœuvre in the empty space, or fruitlessly, as when they act with real efficacy upon the calculus."—*Lettre de M. Velpeau.*

There is nothing in the evidence before us to contradict the truth of this picture—there is even something to strengthen it. However the advocates of a novelty may allow their vision to be obscured by their desires, the good sense of the profession will never permit it to sanction such definitions. It is in vain to pretend that there is any parallelism between simple sounding, as employed by lithotomists, and the incalculably more dangerous, though more accurate examinations of the lithotritists. Even catheterism by straight instruments, is not positively proved to be quite so *safe* as that performed by curved instruments, although we are quite prepared to defend its vast *superiority* under many circumstances. The urethra is not a straight canal—the force required to render it so, *may be* almost harmless, but this question is still *sub-judice*. Not so, straight catheterism, with instruments which distend the canal beyond its natural limits. The danger incurred in *these* is proved by many observations, and properly forms an element in all calculations of danger from operations requiring their use. We have authority to show that the simple dilatations preliminary to the operation of lithotripsy, may be productive of fatal consequences. Such consequences occurred in the cases of MM. Michali and Chevals, (*Première Lettre M. de Souberbielle.*) How much more dangerous then, the complicated *examinations* in lithotripsy.

Death *may* follow simple sounding, as was very fairly argued by M. Lisfranc in the academic debate, but setting aside the extreme rarity of such a result, the fact may be neglected in calculating the the relative dangers of the different methods of performing lithotomy, because this danger is incurred equally in them all; but when comparing the results of two methods having nothing in common, either

in the preliminaries, or in the after-steps, each must be charged with the ill consequences of every *necessary* manœuvre, whether diagnostic or therapeutical, or there can be no justice in the comparison.

From false views upon this subject, the tabular results of M. Civiale lose their value. With regard to those of M. Velpeau, they are sufficient to show a greater amount of failure *in attempts at lithotripsy* than we were prepared to expect—far—very far greater than we could have supposed probable from the known results of the few operations as yet performed on this side of the Atlantic! But as we know nothing of the mode in which the series of observations were selected from the mass furnished by M. Civiale, nor of the extent to which the latter may have extended his preliminary examinations beyond what we should consider their legitimate bounds; and as we are equally ignorant of the degree and nature of the failures, so called, in each individual case, we must confess that we cannot safely draw conclusions from the data.

The two letters of M. Souberbielle are replete with evidences of the misapplication and failure of lithotripsy, but the point most completely elucidated by them is, perhaps, the value of the assertion made by MM. Amussat and Lisfranc, that the general introduction of lithotripsy will lead to the earlier announcement of the existence of calculus on the part of patients, and hence, to the proportionate increase of the number who will apply for surgical aid before the stone or the urinary organs have fallen into such conditions as are calculated to render doubtful the propriety of the operation. The letters contain sufficient proof of the fact more than once alluded to by M. Velpeau, that stone may exist for many years, and may acquire great dimensions before its presence is even suspected by the patient.

The evidence of M. Souberbielle tends also to prove, that the number of cases which form acknowledged exceptions to the applicability of lithotripsy, bears a much larger proportion to the whole number of calculous affections than is supposed by MM. Amussat, Lisfranc, and other partisans of this operation. This, however, is a matter of minor importance. The only question really interesting to surgeons, is the degree of comparative danger attendant upon the operation in those cases in which its performance is considered warrantable and preferable to lithotomy. We have little sympathy with those who personify contending plans of treatment, and talk in glowing terms of “*la gloire de Lithotritie*.” There is a little too much of this disposition displayed in the academic debate. With us there is but one excellence in any plan of treatment—its utility. We rise fatigued and dissatisfied from the study of the debate and corres-

dence, with a strong hope that the labours of M. Double, in whose hands the details of M. Civiale's observations are placed, and the anxiously desired returns of MM. Amussat, Huerteloup, &c. &c. will soon place the profession in possession of more valuable data. At present, the cause of an operation, the extension of which we ardently desire and confidently expect, appears to be suffering almost as much from its friends as from its foes. We have been led thus prematurely into a long notice of this operation by its great importance in surgery, and the anxiety of the profession on the subject, and shall endeavour hereafter to keep pace with the current of events. R. C.

ART. XII. *Illustrations of the Elementary Forms of Disease*. By ROBERT CARSWELL, M. D. Professor of Pathological Anatomy in the University of London. London, 1833-4. Parts 4, 5.

THE fourth and fifth fasciculi of Carswell's pathology sustain the impression expressed in a former number of this journal, (No. XXVIII. for August, 1834, p. 418,) that Dr. Carswell possessed the requisite ability and the peculiar cast of mind requisite for the arrangement of the morbid products under a systematic and natural classification. The fourth number embraces an account of those degenerations, which, from their peculiar colour, have been termed *melanic*. Melanoma is defined by our author as "a morbid product of a black colour, varying in its intensity, humid, opaque, and of the consistence and homogeneous aspect of the tissue of the bronchial glands of the adult."

As some difference of opinion exists among pathologists as to what productions should be classed under the head of melanosis, the work before us divides them into *true* and *spurious*; by this arrangement every morbid product resembling melanosis will be provided a location; while true melanotic degeneration will be more accurately and clearly defined.

True melanosis is a morbid product of secretion of a deep brown or black colour, presenting no evidence of organization; its form and consistence vary greatly, and are dependent upon the influence exerted by external agents. The most frequent location of this deposit is on the serous surfaces, and in the cellular tissue entering into the formation of organs; not unfrequently it will be found blended with the molecular structure of the organ, as by the process of nutrition; lastly, it sometimes exists in the blood, and particularly in that found

in the venous capillaries. The physical characters of true melanosis comprise the form, consistence and colour, which it assumes in the different structures of the body.

Form.—The condition in which Dr. Carswell found melanic productions was either in points, which he styles punctiform, or in nodes or masses,—the tuberiform; in layers, the stratiform; or in the fluid state, the liquiform.

The punctiform arrangement of melanosis is most usually found in the liver, scattered through the organ in small dots, which when examined by the microscope, have a stellated or penicillated distribution, and in many instances can be distinctly seen to be the black matter in the extreme terminations of the venous vessels. At other times it is found to be deposited in the molecular structure of the organ, and intimately blended with the natural elements of the acini. The morbid material in this arrangement varies from a gray to a deep black hue.

Tuberiform melanosis is by far a more frequent occurrence than either of the other forms, and is situated on the serous surfaces, in the cellular and adipose tissue, or in the structure of every organ. When located on the serous surfaces, the form is generally globular; while the masses deposited in the substance of organs vary greatly in form and volume. This arrangement is frequently found united with the punctiform in the liver, and appears to be an advanced stage of it, depending upon successive depositions by the nutritive power of the organ. The suggestion would naturally arise, that if this is but a state or stage in the development of the first, it is unnecessary to constitute it a distinct class. We cannot for our own part discover any satisfactory reason for separating these two forms, unless it is designed to distinguish those punctiform deposits which are stellated or penicillated before the lens, from those which are essentially confined to the acini and dependent upon the process of nutrition for their development, and which alone can give rise to the second character of melanosis.

When the melanotic tumour is incased in a fibrous sac, it is said to be encysted; this form is found only in the cellular or adipose tissue, and is owing to the gradual distension and condensation of the cellular texture. The stratiform melanic deposition is met with upon the free surfaces, and consists in a distinct layer, resembling jelly spread over the surface, and is enclosed in a soft and spongy cellular tissue or delicate transparent serous membrane of new formation. It is not often met with in man, but in the horse it is frequently found upon the peritoneum, pleura and pericardium. Li-

quiform melanosis is generally confined to natural or accidental serous cavities; the peritoneum and pleura are the only membranes which have as yet furnished instances of this character of degeneration. Dr. Carswell has never found it in man as a product of secretion, but has seen it as the consequence of the destruction of melanotic tumours, and the effusion of their contents into serous cavities when their walls had been perforated. BRESCHET, ANDRAL and CRUVEILHIER, have discovered the liquiform melanosis on the surface of the mucous membrane, or in the cavity of the stomach; but our author thinks they have confounded it with the discoloration of the blood, which is produced by the action of the gastric juice upon it when effused.

The bulk of melanotic tumours is extremely variable, varying from a mustard seed to the size of an orange. The largest masses being found in the loose cellular tissue; sometimes a single and entire mass; at another composed of an assemblage of smaller ones. The colour, like the bulk of the tumour, is not determinate, presenting us every shade, from a light brown to a deep black; this variety in shade is not so much owing to the colouring matter which enters into the formation of this morbid production, as to the quantity of cellular membrane blended with it.

The consistence of melanosis is determined by two circumstances—the texture and form of the organ in which it is located. If the deposit is on a free surface, or in a loose cellular texture, then the matter is found in the fluid state; on the contrary, if the texture of the organ is dense and firm, it assumes a compact of solid consistence. LAENNEC asserts with great confidence and pertinacity, that melanosis is from the onset of its deposition a solid product; this opinion, however, is ably confuted by the concurrent testimony of many highly reputable pathologists; indeed, many agree with our author, that on the free surfaces of secreting membranes it is always fluid in the commencement, and when thereafter it becomes solid, it is dependent upon the cellular tissue in which it is deposited. The solid deposit after a given time ceases to increase in bulk, and ultimately softens and assumes almost the fluid state. This process of softening is not accomplished by any vital power of the melanic deposit or its surrounding texture, but is effected solely by the destruction of the tissues which envelope or enter into its composition, and the simultaneous effusion of serosity. Inflammation seldom or never accompanies the softening of this matter, and whenever ulceration or sloughing occur, they are owing entirely to the obliteration of the vessels of the texture, by the morbid product in its

development pressing upon them. Our author sums up the physical characters of melanosis in the following words:—

“This matter is quite opaque, and has no marked odour or taste. In its natural state, or when mixed with water, exposed to the air it becomes dry, brittle and pulverizable, and does not emit the odour of putrefaction until after a long period. When burnt, it swells, gives out a great deal of smoke, a marked empyreumatic odour, and is converted into a carbonaceous substance.”

The chemical characters of true melanosis have been examined with great care and accuracy by LASSAIGNE, FOY, and BARRUEL, in France, and Dr. HENRY, of Manchester. Barruel asserts that melanosis of the human subject is composed of the colouring matter of the blood united with fibrine, both of them being in a peculiar condition, (*“se trouvant dans un etat particulier,”*) three distinct kinds of fatty matter, and a considerable quantity of the phosphate of lime and iron. Foy, after repeated examinations of melanotic tumours in the horse, reports as the result of his observation—

Albumen	-	-	-	15.00	Muriate of potash	-	-	5.00
Fibrine	-	-	-	6.25	Ditto, soda	-	-	3.75
A highly carbonized principle,					Carbonate of soda	-	-	2.50
probably altered cruor				31.40	Ditto, lime	-	-	3.75
Water	-	-	-	18.75	Ditto, magnesia	-	-	1.75
Oxyds of iron	-	-		1.75	Tartrate of potash	-	-	1.75
Sub. phosphate of lime				8.25				

Thus it appears that melanosis is composed of the constituents of the blood, and derives its colouring principle from a highly carbonized principle analogous in some measure to the colouring matter of the blood. We shall present the anatomical characters of melanosis in the language of our author.

“We have seen that the melanotic matter, in the form of a round tumour, may lie in immediate contact with the substance of the organ in which it is deposited, or may be bounded by a membranous capsule. When a single tumour of the latter description is divided, and a quantity of the melanotic matter is removed from it by pressure and ablution, a multitude of fine filaments and lamellæ are seen connected with the capsule, traversing its contents in every direction, and presenting an appearance resembling cellular tissue when distended with serosity.”

“When a number of melanotic tumours are grouped together, they are included in a common capsule, and separated from one another by their respective coverings, and portions of cellular tissue contained in the angular spaces sometimes left between them. It is in these filamentous and cellular tissue alone that blood-vessels or nerves are to be seen. Minute arteries and veins may be observed ramifying in both, but they never pass beyond the limits of these tissues. Large branches, and even trunks of arteries and veins, are sometimes found passing over the surface, or included in the aggregated masses of melanotic tumours.

Our author remarks, that melanoma is more frequently combined with carcinoma than any other morbid condition, although there is no similarity either in their anatomical, physical or chemical characters.

We shall now pass on to those depositions which are styled *spurious*. These products arise either from the introduction of carbonaceous matter into the organic textures, and are confined solely to the lungs, or from the action of chemical agents on the blood. The lungs under this form of disease present us with a black carbonaceous colour, which pervades all the tissues, and is distinctly recognised in the bronchial glands; the texture of the lung is rendered friable and more readily lacerable. Dr. CHRISTISON has reported in the *Edinburgh Medical and Surgical Journal*, No. 109, the result of his analysis of the black matter from a patient of Dr. J. C. GREGORY, which presents the following points of interest. The colour suffered no change when boiled in concentrated nitric acid; a strong solution of chlorine did not in the least affect it; caustic potash in a strong solution took up some animal matter, which, when filtered, gave us first an opaque black portion, which was followed by another of a pale yellowish colour. The black powder which remained upon the filter when dried, burned readily, and resembled the combustion of charcoal, leaving behind a pale gray ash.

A small portion of the black matter which remained after boiling in nitric acid was treated in the following manner. Having been well washed and dried, it was introduced into a glass ball, with a tube attached, which was subsequently drawn out by means of a spirit lamp flame to a fine bore.

“On the application of a low red heat to the ball, there was disengaged, at the open end of the tube, a considerable quantity of gas, which had the odour of coal gas, and on the approach of a light, took fire, and burned with a dense white flame. In the tube a dark yellow fluid likewise condensed, which had very exactly the odour of impure coal-tar naphtha, and became a soft mass on cooling, of the consistence of lard. This, when compressed between layers of filtering paper, yielded an oily stain to the paper, and left a white matter, which dissolved in boiling alcohol, and separated again on cooling, in minute obscure crystals.”

Dr. Christison remarks, that in the result of this experiment, it is impossible not to recognise the ordinary products of the distillation of coal.

“A gas,” says he, “of the same quality was procured, and likewise a naphthous fluid holding in solution a crystalline principle, analogous to, if not identical with naphthaline.”

The case cited above by Dr. Gregory, is pregnant with interest,

since it clearly demonstrates the correctness of Laennec's view, that the discoloration of the lungs may take place by the inhalation of the carbonaceous matter from ordinary combustion. Dr. Carswell thinks that the uniform black hue of both lungs—the fact that no other organ takes on this character of degeneration—the frequent occurrence of disease in those who are constantly exposed to coal dust—and the identity of the colouring principle with the inhaled matter, clearly and conclusively demonstrate the origin and nature of spurious melanosis of the lungs.

Another form of spurious melanosis results from the operation of an acid chemical agent, acting upon the blood; and is confined to those organs in which this acid exists either as a healthy secretion, as in the stomach, or where it is occasionally produced by an alteration in the chemical condition of the contents of these organs, as in the intestines, from the anormal formation of a fluid or gaseous product. The blood when subjected to the action of these acids varies in colour from an orange tint to a deep black, the latter being the most frequent, and is found either while blood is yet contained in the vessels, and constitutes a part of the circulating mass, or extravasated in the cellular membrane, or upon the free surfaces of serous membranes, or poured out into the cavities of the hollow organs, thereby assuming the punctiform, ramiform, stratiform or liquiform arrangement.

When from any mechanical cause the circulating blood is retarded, or interrupted in its course, it is found to assume a darker hue, and this is particularly manifest in the venous capillaries, in which the circulation is not unfrequently entirely arrested, and a separation of the serous from the solid constituents of the blood takes place. The serum with the salts escape and are ultimately absorbed, leaving behind the fibrine, of a dark blackish hue; this change of colour according to Dr. STEVENS, is owing to the removal of the salts, which give to the blood its peculiar red colour. This form of melanosis is usually found in the respiratory or digestive organs.

In the lungs it is attributable to those diseases which obstruct the circulation, and is either confined to minute spots, or diffused generally through the entire organ. Laennec styles this discoloration the "*matière noire pulmonaire.*" This character of discoloration of the lungs may be distinguished from the melanosis of this organ, from its never assuming the globular form.

The black discoloration from stagnation in the digestive organ, presents nearly the same characters of spurious melanosis produced by the action of an acid; it is however always confined to the villous and follicular structures of the mucous membrane.

Ramollissement is a term applied by the French pathologists to a morbid state of the different textures, in which there is a diminution of their healthy and natural consistence. The cause of this state is referred to an undue vascularity or hyperæmia of the texture, and is therefore one of the ordinary attendants upon inflammation; but when we reflect upon the frequent occurrence of softening under circumstances of an entirely different character, in which, instead of an exalted action, we were warranted in the presumption, that the parts were in a state of anæmia, a diminished vascularity, we cannot but unite with Andral, in referring this form of lesion to a derangement of the nutritive apparatus, and the result of an interference with that vital force which binds together the integrant particles of the several tissues, and retains them in union. Any disturbance of the circulation by which the vitality of the textures would be assailed, either by an obstructed circulation, or an imperfect nutrition, dependent upon a scanty, or impoverished supply of food, would prove an efficient cause for the development of this morbid condition. Thus it is, that children born in a debilitated state, and cachectic individuals, are characterized by this degeneration, varying in intensity from the softened integuments and flabby flesh, to an entire and complete destruction of the different organs and tissues. With the above principles before us, we can readily imagine how obliterated arteries may also become the cause of softening. To the changes which occur during life, may be added a similar state of things taking place after the death of the individual, and dependent entirely upon chemical and physical causes, viz. the solution of the mucous membrane by gastric juice; or the infiltration of the tissue by some of the fluids producing a species of maceration; or a loss of cohesion from the putrefactive decomposition.

Softening from inflammation, according to Dr. Carswell, arises from an accumulation of blood in the capillaries, followed by an effusion of serosity, and not unfrequently accompanied by the deposition of coagulable lymph or formation of pus. The assimilable materials are no longer furnished, and the function of nutrition is completely suspended.

“A diminution in the consistence of the tissue thus situated, follows; the degree of which, will vary with the duration of the suspended function, and the degree of cohesion possessed by the tissue in its normal condition.”

The process of softening is carried on by the united operation of a mechanical and vital agent: the molecules no longer bound together by the vital power, in consequence of the nutritive action being arrested, the effused fluid insinuates itself between them, and thus

mechanically effects an entire separation, the result of which is recognised in the lessened consistence of the original texture. The physical characters of *inflammatory softening* are found to vary not only with “the duration on which the softening depends, and the natural difference of consistence of the tissue on which it takes place, but also with the structure of the affected organ, and the quantity of blood which it contains.”

The degree of inflammatory softening of the cerebral mass may range from a slight deviation from its natural consistence to a cream-like fluid. In the beginning of this change, the continuity of the organic particles is but little disturbed, and not entirely separated from the surrounding structure; while in the advanced stage the molecules are entirely separated, and a part of the broken down cerebral mass removed, and if the softening is circumscribed or partial, a line of demarcation between it and the healthy substance is distinctly visible. Ramollissement of this organ must present us with various hues, according to the amount of vascular turgescence, the change effected upon the colour of the circulating blood, and the effusion of serosity or formation of pus; nor does the stage in which we examine the morbid product exert an unimportant influence over the colour; for the first stage is always characterized by its redness, while it gradually subsides as the pathological state progresses. When the substance of the brain is cut in the early stage of ramollissement, where the vascularity of the part is in its greatest degree, the exposed surface is studded with dots from the effusion of blood by the lacerated capillaries, or marked with purple lines arranged in an arborescent manner, or as is frequently found, the blood is poured out, and generally diffused through the softened mass, presenting the appearance of hemorrhagic apoplexy; moreover the softened mass will sometimes assume a *lead*en hue, owing to the minute and complete injection of the capillaries, both arteries and veins.

Redness must not however be esteemed an invariable attendant upon ramollissement from inflammatory action, since the effusion of serum in large quantities by pressing upon the arterial capillaries may prevent the ingress of the red particles of the blood, and give rise to an anemic condition of the cerebral mass; this state of things is usually found after hydrocephalus. To this may be appended the yellow degeneration produced by the presence of pus, and is usually found in close proximity to the meninges of the brain.

Inflammatory softening of the mucous membrane.—“Softening of the mucous membranes in general is a very frequent occurrence, but it is much more so in some than in others, and most of all in the digestive mucous membrane.”

The frequent occurrence of disease, and particularly of softening in the gastro-intestinal mucous membrane, constituted the basis of BROUSSAIS' theory of fever, and although it is not always the sequel of inflammatory action, still its dependence in so many instances upon this state of the vascular system, warrants the conclusion of the French pathologist, that it should be taken as a strong argument in support of his pathological views in reference to essential fever. To arrive at a satisfactory opinion on this subject, it is always necessary to ascertain how far the softening is the result of previous exalted action in the capillaries, and how much depends upon the ordinary loss of cohesion from putrefaction, or the action of the gastric juice after death.

“Softening of the mucous membrane of these organs, (stomach and intestines,) presents, in regard to degree and extent, the same variety as in the brain. In the first stage the mucous membrane, instead of possessing that degree of cohesion peculiar to it, in different portions of the alimentary canal, and which permits of its being detached from the submucous tissue in pieces of considerable size, breaks when seized between the fingers or forceps; in the second stage, the edge of a scalpel, or even the finger passed lightly over its surface, converts it into a soft, somewhat opaque, creamy-looking pulp; and in the third stage it is so completely softened and detached, that a gentle stream of water poured on it from the height of a few inches, removes it entirely from the surface of the submucous tissue. It is important to observe that in all these stages the softened mucous membrane is more or less opaque; it does not present the transparency which accompanies softening from the chemical action of the gastric juice. In the former case, and in the last stage of softening, it resembles a mixture of flour and cold water or milk; in the latter, the same materials after having been submitted to the action of heat.”

Of the extent to which inflammatory softening may be carried in this texture, Dr. Carswell remarks:—

“The extent of inflammatory softening of the mucous membrane is extremely variable. It may be limited to a small portion, or comprehend nearly the whole membrane. It has been described as extending from the mucous membrane to the other tunics of the stomach and intestines, and terminating in perforation of these organs. Such, however, does not appear to me ever to be the result of inflammatory softening. It is the consequence of the chemical action of the gastric juice.”

We might be disposed to admit our authors conclusions, were we not prone to deny the existence of this great and mighty solvent. Our incredulity is based entirely upon the evidence afforded by the advocates of the opposite view, and not a little increased by their contrary statements of its chemical characters and the various properties which it presents at different times. Some have proved it to abound in alkaline properties, others in the essential characteristics

of an acid, and all unite in the opinion, that this fluid owes its chemical character in a great measure to the kind of food taken. This contrariety of evidence upon an important question would lead us to infer that its properties did suffer alteration; and if so, we must be sceptical of its existence, as a physiological agent, since we are not acquainted with any organ in the animal system which can vary its secretion in such essential particulars, for the mere accommodation of the habits or caprice of the animal. But if we were able to explain away the above objections, we should only give place to others equally or more formidable. It is judiciously observed by Sir C. BELL, that physiological principles can only be admitted when sustained by reference to anatomy; the importance and correctness of this position can be fully appreciated by contemplating the magnificent results of his investigations on the nervous system, which originated the remark. If then we turn our attention to the mucous membrane of the gastric cavity, we find it in no essential particular different from that of the intestinal canal; its villousities are analogous in every part of the alimentary tube; the muciparous glands in the stomach are the same in development and structure with those of the duodenum or ileum. The blood-vessel distribution is essentially the same. Where then are we to look for the source of this fluid? To the gastric glands of Sir EDWARD HOME? If we examine them with the microscope, they present us with no peculiarity; they are of the same structure and volume, and located in the same manner as the muciparous glands throughout the entire membrane. Should we be met with the assertion that a series of large glands has been distinctly traced at the cardiac extremity of the œsophagus in the beaver, wombat, granivorous birds, &c. which are strictly entitled to the appellation—gastric, and which may be presumed to be the apparatus for elaborating gastric juice; we would ask whether the fluid has ever been obtained from them, and whether they are not usually found developed in those animals which have an imperfect salivary apparatus, as for instance, about the œsophagus of birds? Dr. ELLIOTSON remarks, (justly we think,) that so far from their secreting gastric juices, as understood by many physiologists, they are merely salivary glands.

Although the mucous membrane of the stomach is more frequently the seat of this morbid process than any other portion, it is not to be inferred that it is attributable to the action of the gastric juice, since that part of the gastric mucous membrane, with which the gastric juice is usually in contact, viz. at the cul-de-sac, is not often found involved, but most generally it is confined to the pyloric portion.

Dr. Carswell does not agree with M. Louis, that the degeneration in bands or stripes is the result of inflammatory process. The colour of the mucous membrane under this form of lesion is either red or pale.

“In the pale softening, the mucous membrane presents a pale grayish or yellowish gray tint, its natural colour being little altered; or it may be paler than natural, when it generally presents a milky aspect, owing to its being reduced to a thin layer, through which the colour of the submucous tissue is partially seen.”

Inflammatory softening of the cellular tissue is one of the most important and interesting morbid states to which the attention of the pathologist is attracted, and more frequently overlooked from the presumption that the integrant parts or elementary structure of the organs are in a state of disease, and also from the prevalent opinion that the cellular tissue, in an eminent degree, resists morbid changes; but when we reflect upon its extreme vascularity, we readily recognise how it is brought under the influence of disease. When the cellular tissue surrounding or entering into the formation of the several organs is in a softened state, it is readily detected by the facility with which they are lacerated. The subcutaneous, submucous, and subserous cellular membranes are assumed to have lost their cohesive properties, when these textures are easily stripped off from their attachments. It is important to bear this in mind, as it will not unfrequently direct our attention to a diseased condition of the super-imposed membranes, which from their anemic state would not otherwise arrest the attention of a casual observer.

Obliteration of the arteries has only been traced as a cause of softening in the brain structure, and was first described by M. Rostan. It may arise either from ossific deposits or fibrous and cartilaginous degenerations of their coats; the extent of the morbid condition will depend upon the class of vessels primarily assailed; if the capillaries of a part are alone involved, it will be circumscribed and limited to that portion of the cerebral mass receiving blood from them; if on the other hand, the main trunk of the artery is the seat of the cause, as for instance, the internal carotid at its commencement, the entire mass supplied by its ramifications will be discovered to be in a state of degeneration. In the first case, the cause of the disease may be detected by working out the pulpy structure of the brain, when the minute vessels will be firm and not unfrequently entirely obliterated by the process of thickening; where the cause is seated in the main trunk it may escape the notice of the examiner, and can only be recognised by tracing the vessel from its origin

upwards, which should never be neglected in autopsic examinations where this state of the encephalon is suspected.

The attention of pathologists was first directed to the softening of the mucous membrane of the stomach after death by JOHN HUNTER, as "*digestion of the walls of the stomach after death*," and was referred entirely to the action of gastric juice. Dr. Carswell is induced to believe from his experiments that this kind of softening is of frequent occurrence, and must be strictly attributed to the acid properties of the contents of the organ, for which reason he prefers using the term "*gastric acid*."

There cannot be a doubt in the mind of any candid and impartial investigator, but that our author's judgment, in this matter is led captive by preconceived notions or prejudices, and incredulous as we are, as to the powers of this agent, for reasons above stated, we are not the less so, when we find the sweeping assertion, that all those lesions described by M. Cruveilhier as "*ramollissement gelatiniform*," and those by Louis, as "*ramollissement avec aminicissement, et la destruction de la membrane muqueuse de l'estomac*," are none other than the results of the solvent powers of the gastric acid.

In concluding our review of Dr. Carswell's work, as far as it has been issued from the press, we should remark that each form of lesion is illustrated by handsomely executed plates on stone, and coloured with a precision and care, which cannot fail to impress the reader with the conviction that is contemplating faithful representations of the alterations of structure described in the text. A. L. W.

BIBLIOGRAPHICAL NOTICES.

XIII. *A Series of Twenty Plates, illustrating the causes of Displacement in the various Fractures of the Bones of the Extremities.* By G. W. HIND, Member of the Royal College of Surgeons of London; formerly House-surgeon to the Middlesex Hospital; late Curator to the Museum of Anatomy in the University of London. 4to. London, 1835. pp. 48.

We venture but little, in asserting that few subjects in surgery are less generally understood than the mechanical causes of displacement, and the mechanical action of dressings and apparatus in fractures. With most professional men it has become customary to neglect the operation of physical causes in questions involving vital phenomena; forgetful of the fact that such causes act a distinct, though subordinate part *in the performance of every vital function.*

Hence, in a department of surgery, in which the diagnosis and treatment depend mainly upon relations of a mechanical character, the surgeon too frequently approaches his patient deficient in the knowledge of the principles which govern those relations. Finding himself under such circumstances driven by necessity from his habitual modes of examination and reasonings in pathology, he is also liable to err on the other hand, and is exceedingly prone to depend in too exclusive a manner upon his partial acquaintance with the physical laws of motion and the direction of forces, regardless of the physiological peculiarities of the parts affected.

This double error is more or less conspicuous in every work on fractures with which we are acquainted, especially in those of the English schools. We say so without the slightest presumption, for alas! *it is much easier to point out defects than to remedy them;* and we took up the magnificent quarto of Mr. Hind, in the honest hope that it would afford some important illustrations of diagnosis or improvements of treatment. We are sorry to confess our disappointment. The very modest and unpretending preface indeed promises nothing of the kind; on the contrary, the text is therein declared to be simply illustrative of the plates, and both are intended chiefly to elucidate the causes and nature of displacement in the various fractures of the extremities, but to the description of each plate is appended a very short outline of the therapeutic indications and apparatus. In our remarks upon the work we shall have due regard to the intentions of the author.

The fractures portrayed and described in this treatise are those of the middle of the clavicle; the coracoid and acromion processes, and the neck of the scapula; the neck of the humerus, its shaft above and below the insertion of the deltoid, and the shaft immediately above the condyles of that bone; the olecranon; the coranoid process, and the shaft of the ulna; the neck and shaft of the radius; the shaft of both bones of the forearm in the middle of the arm, and also just above the wrist; the fingers; the trochanter major, and the neck of the femur, its shaft just below the trochanter minor, in the middle, and

just above the condyles; the patella; the tibia; both bones of the leg; the fibula above the malleolus: and lastly, the malleolus internus.

In running over the magnificent plates representing these accidents on a scale, in most of the figures, as large as life, the first thing that strikes us, is the imperfection of the series. With very few exceptions, the fractures selected are precisely those which least require graphic illustration on an extensive plan; for if we pass over those situated about the shoulder joint, that of the radius, and those of the neck of the femur, and its shaft immediately below the trochanter minor, all the others can be rendered perfectly intelligible by words alone, or by very simple diagrams. Not so those which are omitted by Mr. Hind; some of which require very careful dissection and study, and cannot be made clear to others without the aid of accurate drawings. Part of this field is entirely untrodden, and Mr. Hind must have had enlarged opportunities of exploration, as house-surgeon in a very large institution, and curator of a noble anatomical cabinet. We are therefore surprised that he has left unnoticed so many of the injuries of joints. Nothing is said of fractures of the clavicle external to the coraco-clavicular ligament, or of those which take place so near the sternum as to render the diagnosis obscure. Fractures of the lower angle of the scapula; the anatomical neck of the humerus; the shaft of the ulna immediately below the coronoid process; fractures of both the condyles of the humerus; detachments of either condyle separately, or of the extreme point of the internal condyle; fractures of the stiloid process of the ulna; all these are passed by without a word, or a figure! In the lower extremity also, no notice is taken of the distinction between fractures of the neck of the femur, within and without the capsule; not a suggestion with regard to fractures of the condyles of the femur!

But we must leave the sins of *omission* to speak of those of *commission*. In doing so we shall avoid, as much as possible, the faults which we think are chargeable upon the state of the science, and those which appertain to the national school to which the author belongs, in order to notice some of those for which he is personally accountable.

The first plate, which is an illustration of fracture in the middle of the clavicle, is drawn from a deformed subject, and displays, according to Mr. Hind, the ill effects of tight corseting in females. There is a decided impropriety in the attempt to represent two species of deformity in the same plate, when their character is such that their appearances mutually confuse each other; and the frequency of both accidents render it altogether unnecessary to do so. Moreover, illustrations of curvatures of the spine with misplacement of the ribs and sternum, are irrelevant in a work on fractures. In the corresponding text the clavicle is described as having "an arched form, the convexity looking forwards; it is also hollowed out on the lower side," &c. The fracture is stated to occur but rarely from direct forces, and when resulting from forces acting on the outer extremity of the bone, the bone is said to yield in the centre of the arch, its weakest point, in consequence of the approximation of its ends: now we hold it impossible to comprehend the varieties of fractures of the clavicle without more accurate ideas of its form. It is not simply arched forward, or forward and upward; it forms a curve of contrary flexure, with one long and slight anterior arch, and one short and rapid posterior curvature. Moreover,

reasoning mechanically, the centre of the longer arch is not generally the weakest point, when blows are received on the outer extremity of the bone. Mr. Hind in his conclusions has neglected the disposition of the cancellated structure of the extremities of the clavicle. It is indeed the most *frangible* point in cases of direct injury. Direct forces applied to the centre, frequently crush the bone at one extremity of the arch—almost always the outer one—but they also frequently fracture the centre itself when they are sharp or sudden in their action. Great pressure, or a heavy body moving slowly upon this part will break the outer extremity, while a quick blow with a cane or any small hard body in rapid movement may splinter the middle of the arch. On mechanical principles, when forces act on the shoulder, the bone is evidently more liable to yield in the inner extremity or centre of the smaller arch, than in any other situations, and it is also subject to fracture near the sternal articulation from like causes.

It so happens that the results of our own observations tend to show that the actual condition of fractures of the clavicle is consistent with these deductions from the laws of force, and the form and structure of the bone. Among the numerous cases we have seen, but few have laboured under fracture in the centre of the bone, and in nearly all these, fracture has been produced by direct forces. Of the fractures near the humeral extremity, two were occasioned by falls on the shoulder, a third by the pressure of a bank of earth. The instances of fracture from indirect causes, taking place near the humeral extremity about the point of junction between the two arches, have been much more numerous than those produced by direct blows on the bone. We have twice suffered this accident in our own person; once from a direct blow, on the centre of the great curve of the left clavicle, which caused fracture at the junction of the arches, and once when a boy, from the fall of a companion upon our left shoulder, while the right elbow rested on the floor, and the head on the hand of the corresponding side; which latter accident produced fracture at the centre of the posterior or humeral arch.

We are by no means disposed to argue in detail, the points in which we differ from the author, but must remain content with a passing remark on the more important objections to his style or matter.

The plans of treatment recommended in fractures of the acromion and coracoid process of the scapula, are not original with the author, and we therefore wave all discussion of the possibility of putting them effectively in practice. They have been repeated from father to son, or rather from prophet to neophyte, and the extreme infrequency of these accidents is probably the reason of their escaping the severity of criticism which they justly merit. But if it please our author to adopt a particular method, on high authority, without the test of experiment, it is at least incumbent upon him to describe the method in such a manner as to render it clearly intelligible even to his duller readers. We copy the following passage from the description of the treatment for fracture of the coracoid process. After directing a small pad to be placed in the axilla, and there supported by a band crossing the shoulder; the arm of the injured side being carried across the front of the thorax, with the forearm flexed and the hand grasping the shoulder of the diseased side, the author holds this language:—

“The humerus should then be pressed upward, so that the head of the bone pressing up the coraco-acromial ligament, raises with it the displaced portion of the bone; a firm bandage being now passed over the upper part of the shoulder, crossing the spine of the scapula and the clavicle, is to be carried down on the anterior part of the shoulder between the arm and the chest, to the inner part of the forearm near the elbow, which, (*quere, the elbow?*) should be made to cross exactly in the opposite direction, thus forming a figure of ∞ from the shoulder to the forearm; in this way the humerus is fixed,” &c.

To those who have seen the apparatus, this sentence may perhaps convey some idea of the bandage hinted at; but those unfortunates who are intended to receive instruction in the art of dressing fractures of the coracoid process from such a description, deserve no little pity. We have studied the application of bandages with somewhat more attention than is usually devoted to this all-important subject. To comprehend or follow the directions here given surpasses our ability. We cannot even *guess* their meaning.

We have here selected perhaps the strongest instance of incomprehensibility, but there are many other passages in the work, which require much thought, and considerable surgical practice to enable the reader to judge of the probable meaning of the author. Thus, in speaking of the treatment of fractures of the neck of the scapula, the author says—

“The arm should now be bound from the elbow to the shoulder by passing a double headed roller from the forearm near the elbow, bringing either end over the spine of the scapula, where they should cross, and again carrying them down to the chest on the opposite side; by which means the head of the bone is retained in its natural position; the two ends being now brought round to the injured side, and the arm fixed,” &c.

We believe that the experienced reader will here discover the *meaning* of the author, though it is certainly left unexpressed in his *words*. If, however, our conjecture be correct, the bandage will form a cross, not on the spine of the scapula, but on the side of the root of the neck.

Fracture of the neck of the humerus, as described by Mr. Hind, is confined to the shaft of the bone above the insertions of the latissimus dorsi and pectoralis major muscles, and does not include the rare case of a separation at the anatomical neck of the bone. In this accident the author endeavours to prove that most surgeons have been misled in supposing that the supra-spinatus muscle has the effect of carrying the lower extremity of the scapular fragment outwards, while it rotates it upward. He thinks that the superior size and strength, and the position of the insertions of the sub-scapularis, the infra-spinatus, and the teres major muscles, fully counteract this tendency of the supra-spinatus. His language leads to the inference, that he maintains this opinion rather from the results of mechanical reasoning than from those of actual observation.

“If we examine the relative sizes of these four muscles, enumerated above as being inserted into the tubercles of the head of the bone, we shall at once perceive how insignificant would be the power of the supra-spinatus compared with the remaining three,” &c.

This is one of those questions in the history of fractures, which, in our opinion, cannot be decided on mechanical principles alone. *It is not the relative power of a muscle, measured by the weight which it can raise, that determines its importance as a cause of displacement; its habitual tone, and its tonic contractility,*

are elements of at least equal importance in the calculation, facts which will scarcely be denied, and should not have been forgotten by a student of Sir Charles Bell. But we must wave any argument on this head, least we should be drawn into a wide and ill-surveyed region of physiology; and we, therefore, meet the question on less disputable ground. Any mechanist who will study the structure of the parts will perceive that owing to the relation between the centre of motion in the head of the humerus, and the insertions of these several muscles, the supra-spinatus acts with the whole, or very nearly the whole of its force, in rotating the scapular fragment outward and upward; and that it acts, also, at a mechanical advantage far more than equivalent to the very small part of the power of the sub-scapularis, which opposes this motion. Indeed, the latter muscle scarcely acts at all in opposition to the latter. The really important opponents of the supra-spinatus, are therefore the infra-spinatus and teres major. These are no trifling muscles, and they enjoy moreover nearly as great a mechanical advantage as their antagonist; but it must not be forgotten that the major portion of their force is employed in opposing the normal action of the sub-scapularis as a rotator of the humerus, over which they enjoy some very slight extent of purchase. It is only by a portion of their power, that they oppose the abduction of the upper fragment, and their influence is again somewhat weakened by their partial relaxation consequent upon the slight rotation outward which they produce in consequence of their superiority to the sub-scapularis. It is plain from this statement, that the estimation of the relative effect of the supra-spinatus is a problem of great complexity, even if physiological data are kept out of view. It may be much more readily determined by observation than by calculation.

The accident is not very common, and the number of cases which have fallen under our observation have not probably exceeded six or seven, but we have examined every case with especial reference to this question; of course those more numerous fractures which involve the tendons of the latissimus dorsi and the pectoralis major, are excluded from this group. The result has been that in every case examined, there was primarily a deformity produced by the upper fragment being carried outward and rotated upward; the edge of the fragment being felt through the deltoid, and its position being determined by its relations with the point of the acromion. This deformity has been slight and easily removeable on extending the limb; it is even spontaneously removed during the application of the usual dressings, and its liability to return during the treatment depends very much on the direction of the fracture, for obvious reasons.

In stout and muscular patients, and in cases of severe contusion or ecchymosis of the deltoid, it would probably escape detection. Two of the cases had probably oblique fractures, (for we are never very critical on this point, unless the direction influences the treatment,) and they presented on recovery some limitation of the power of carrying the arm upward and outward to the extreme extent by the action of the deltoid, thus proving the malposition of the fragment after the complete union was accomplished. This permanent deformity is fortunately of little importance, for it is unavoidable in some cases under any plan of treatment hitherto devised.

Under the head of fractures of the humerus, we find a complex jointed carved splint for the forearm and shoulder, adapted to the inside of the limb,

and fitted with a crutch-like axillary extremity, screws, slides, and all the necessary contrivances for extension and counter-extension. This is furnished, as is too customary with English surgeons, with straps instead of bandages to secure it to the limb. We shall not attempt to pronounce upon its merits, for we frankly confess, (whether from prejudice or not let the reader judge,) that dire necessity alone will ever induce us to use a strap and buckle in treating a fracture of any long bone unless, perhaps, the clavicle.

Our limits will not allow us to canvass certain exceptions which might be taken, to a few points in relation to misplacement in fractures of the forearm, but it would be wrong not to bear testimony, on every possible occasion, against the folly so universally prevalent, that induces surgeons to apply a bandage directly to the forearm before applying splints in injuries of this character. We have often asked for a rational explanation of this practice, without effect. It is directly at war with the acknowledged indications in the coaptation of the fragments, and when the object of the whole apparatus is to thrust asunder their extremities, it commences by binding them together. Few plans in surgery are more generally followed; none can be more absurd! With strange inconsistency, Mr. Hind recommends this bandage in fractures of the radius, while he rejects it in fractures of the ulna, and in those of both bones of the forearm!

It is difficult to pass unnoticed the plan of leaving the hand hanging from the ends of the splint in fractures of the radius, as a mean of extension; but here the author stands guarded at all points in the armour of *Achilles*. For the same reason, we pass by those parts of the work which are devoted to such of the fractures of the lower extremities as Mr. Hind has illustrated. In defects of the series have been already enumerated, and we will add but one verbal criticism which might appear trifling, were it not that a disposition to grandiloquy, or a more commendable but undue regard to excessive terseness, is every day introducing technicalities which defeat the chief purpose of professional reasoning—perspicuity. The adjectives “trochanteric” and “intertrochanteric,” though each condenses a phrase into a word, will scarcely repay by their brevity the labour of comprehending or pronouncing upon them.

In closing we will merely state, that the histories of the various displacements consequent upon fracture, as given in this work, though minute, and perhaps generally correct, appear to have been digested rather in the dissecting room than in the wards, though the cause of this is not clearly intelligible to us, seeing that Mr. Hind was formerly house-surgeon to Middlesex Hospital. If we have been in some degree severe in our comments on this occasion, it is not because of any assumption in the manner of the author, which is every where modest in the highest degree; but because it is always necessary to call in the aid of a cool judgment, where there is so much to captivate the eye. The work as a specimen of graphic illustration in surgery, is magnificent, and we are sorry to say so little in its commendation.

R. C.

XIV. *A Discourse on Self-limited Diseases. Delivered before the Massachusetts Medical Society, at their Annual Meeting, May 27th, 1835.* By JACOB BIGELOW, M. D. Fellow of the Massachusetts Medical Society, and Professor of Materia Medica in Harvard University. Boston, 1835. pp. 48. 8vo.

The author of this discourse has been happy in the selection of his subject, and he has treated it, as might have been anticipated from his known talents, with great ability.

By a self-limited disease, Dr. Bigelow means—

“To express one which receives limits from its own nature, and not from foreign influences; one which, after it has obtained foothold in the system, cannot, in the present state of our knowledge, be eradicated or abridged by art, but to which there is due a certain succession of processes, to be completed in a certain time; which time and processes may vary with the constitution and condition of the patient, and may tend to death, or to recovery, but are not known to be shortened or greatly changed by medical treatment.

“These expressions are not intended to apply to the palliation of diseases; for he who turns a pillow, or administers a seasonable draught of water to a patient, palliates his sufferings; but they apply to the more important consideration of removing diseases themselves through medical means.”

The object of Dr. Bigelow is to show the existence of such a class of diseases, and to inquire how far certain individual diseases may be considered as belonging to it.

“The existence of a class of diseases, like those under consideration is, to a certain extent,” says Dr. B. “already admitted, both by the profession and the public; and this admission is evinced by the use of certain familiar terms of expression. Thus, when people speak of a ‘settled disease,’ or of the time of ‘the run of a disease,’ it implies, on their part, a recognition of the law, that certain diseases regulate their own limits and period of continuance.

“It is difficult,” he adds, “to select a perfectly satisfactory or convincing example of a self-limited disease from among the graver morbid affections, because in these affections the solicitude of the practitioner usually leads him to the employment of remedies, in consequence of which the effect of remedies is mixed up with the phenomena of disease, so that the mind has difficulty in separating them. We must therefore seek for our most striking or decided examples among those diseases which are sufficiently mild, not to be thought to require ordinarily the use of remedies, and in which the natural history of the disease may be observed, divested of foreign influences. Such examples are found in the vaccine disease, the chicken pox, and the salivation produced by mercury. These are strictly self-limited diseases, having their own rise, climax, and decline, and I know of no *medical* practice which is able, where it deemed necessary, to divert them from their appropriate course, or hasten their termination.”

Dr. B. divides the class of diseases under consideration into three general sub-divisions, which he names—

“1st, the *simple*; in which the disease observes a continuous time, and mostly a definite seat; 2d, the *paroxysmal*; in which the disease having apparently disappeared, returns at its own periods; and 3d, the *metastatic*; in which the disease undergoes metastasis, or spontaneous change of place.”

Under the *simple* self-limited diseases Dr. B. classes hooping-cough, measles, scarlet fever, small-pox, erysipelas and typhus fever; under the *paroxysmal*, epilepsy, angina pectoris, mania and melancholy, asthma when it depends upon

emphysema of the lungs, gravel in the kidneys, and the symptoms produced by ascarides of the rectum; under the *metastatic*, certain morbid affections which pass by metastasis from one part of the body to another, for the most part independently of artificial influence.

"Of this kind are certain *cutaneous* affections, more especially some which are chronic and hereditary. Many persons pass a considerable portion of their lives in alternate annoyance from a disease of the skin, and from its vicarious substitute in some internal organ. Others again are afflicted with hæmorrhagic or purulent *discharges*, which at times disappear, only to be succeeded by equally troublesome affections in a different part. *Gonorrhœa* cannot be prevented from occasional metastasis of inflammation to the testes, and *mumps* are sometimes found to undergo the same transition. But perhaps the most remarkable example of a metastatic disease is found in *acute rheumatism*. This morbid affection often begins to discover itself in a limited and comparatively unimportant part of the system. From thence, in grave cases, it travels by successive migrations from joint to joint, and from limb to limb, till it has visited nearly all the great articulations of the body. It also attacks the organs of sense, and the viscera which are essential to life. During the course of these migrations, the attending physician cannot foretell at any given stage, what part will be next invaded by the disease; neither can he protect any part from being thus invaded; nor can he controul the period, during which the disease will reside in any particular part previously to its next metastasis. And in alarming and dangerous cases of this disease, it often happens that the physician can do little more than stand by with his palliatives, in the anxious hope, that the disease will at length pass by another metastasis to some less vital or less important organ."

Such are the views which Dr. Bigelow has developed in his discourse, and he has displayed no little ingenuity in endeavouring to establish them. We are nevertheless not prepared to yield our assent to their entire correctness. That there occur morbid affections, the duration of which, and frequently the extent also, are beyond the controul of our present remedial means, must be admitted, but such affections consist, for the most part, in individual *cases*, not in individual *diseases*. Dr. Bigelow has admitted this, so far as regards asthma, for he arranges in his class of self-limited diseases, that form only which depends on emphysema or the lungs; and a similar restriction might be made in respect to several other affections which he has introduced into the class in question. Such is the case we conceive in relation to *angina pectoris*. This is improperly considered as a disease; it is a term given to a certain group of symptoms, resulting from lesions of the most diversified character, but developing through the sympathies similar morbid manifestations. This group of symptoms when resulting from incurable lesions of the heart, lungs, brain, &c. is certainly incurable, but when caused by gout, seems amenable to remedial means, as will be seen by reference to the interesting article *angina pectoris*, by our collaborator Dr. Chapman, in the *American Cyclopædia*.

Epilepsy also, when resulting from organic lesions of the brain may be considered as incurable, but when caused by depression of the cranium from injuries, or by simple congestion of the brain, it is often controllable by surgical treatment. Objections might likewise be urged against hooping-cough, erysipelas, and salivation from mercury, being arranged as self-limited diseases, for though this may be true as regards individual cases, it certainly is not so as regards the whole. Nor can we admit that rheumatism is so wholly uncontrollable by

remedies as represented by our author. That some cases are rebellious to our remedies must be admitted, but it appears to us not less true than in very many instances the physician can controul the period during which the disease will reside in a vital organ, and that the practitioner may do much more than "stand by with his palliatives, in the anxious hope, that the disease will at length pass by another metastasis to some less vital or important organ."

It might also, we conceive, be readily shown in relation to some other of the diseases classed by our author among the self-limited, that it is in the power of the practitioner to materially diminish the intensity of the inflammation in the diseased organ, and thus by facilitating its restoration to a normal condition, both ensure that event, and also shorten the duration of the morbid action.

But we are not prepared to enter farther into the description of this subject; though we may hereafter recur to it, for we view it as one of paramount importance, and that the most important results must arise from its investigation. The profession are under deep obligations to Dr. Bigelow for calling their attention to this inquiry, and we strongly recommend his discourse to their consideration. It is true, as is observed by him, that it is "one of the most important desiderata in practical medicine to ascertain, in regard to each doubtful disease, how far its cases are really self-limited, and how far they are controllable by any treatment."

"This question," he adds, "can be satisfactorily settled only by instituting, in a large number of cases which are well identified and nearly similar, a fair experimental comparison of the different active and expectant modes of practice, with their varieties in regard to time, order and degree. This experiment is vast, considering the number of combinations which it must involve, and even much more extensive than a corresponding series of pathological observations; yet every honest and intelligent observer may contribute to it his mite. Opportunities for such observations, and especially for monographs of diseases, are found in the practice of most physicians, yet hospitals and other public charities afford the most appropriate field for instituting them upon a large scale. The aggregate of results, successful and unsuccessful, circumstantially and impartially reported by competent observers, will give us a near approximation to truth, in regard to the diseases of the time and place, in which the experiments are instituted."

We must not be deterred from this investigation by professional or personal reluctance to admit that our art is not or may not be all sufficient, in all cases, to effect a cure. For even in acknowledged self-limited diseases, the practitioner is not to abandon all efforts for the benefit of his patient, and fold his hands and look passively on the progress of a disease which he cannot interrupt.

"The opportunities of doing good," as justly observed by our author, "may be as great in these diseases as in any other; for in treating every disease, there is a right method and a wrong. In the first place, we may save the patient from much harm, not only by forbearing ourselves to afflict him with unnecessary practice, but also by preventing the ill-judged activity of others. For the same reason that we would not suffer him to be shaken in his bed, when rest was considered necessary to him, we should not allow him to be tormented with useless and annoying applications, in a disease of settled destiny. It should be remembered, that all cases are susceptible of errors of commission, as well as of omission, and that by an excessive application of the means of art, we may frustrate the intentions of nature, when they are salutary, or embitter the approach of death when it is inevitable. What practitioner, I would ask, ever rendered

a greater service to mankind, than Ambrose Paré, and his subsequent coadjutors, who introduced into modern surgery the art of healing by the first intention? These men, with vast difficulty, succeeded in convincing the profession, that instead of the old method of treating incised wounds by keeping them open with forcible and painful applications, it was better simply to place the parts securely in their natural situation, and then to let them alone. In the second place, we may do much good by a palliative and preventive course, by alleviating pain, procuring sleep, guarding the diet, regulating the alimentary canal; in fine, by obviating such sufferings as admit of mitigation, and preventing or removing the causes of others which are incidental, but not necessary to the state of the disease. In doing this we must distinguish between the disease itself and the accidents of the disease, for the latter often admit of relief, when the former do not. We should also inquire whether the original cause of the disease or any accessary cause is still operating, and if so, whether it can in any measure be prevented or removed; as for example, when it exists in the habits of life of the patient, in the local atmosphere, or in the presence of any other deleterious agent. Lastly, by a just prognosis, founded on a correct view of the case, we may sustain the patient and his friends during the inevitable course of the disease, and may save them from the pangs of disappointed hope on the one side, or of unnecessary despondency on the other."

Even when we can accomplish comparatively little in the controul of a disease, it becomes more imperative that we should do that little wisely, and well.

"The importance and usefulness of the medical profession," observes Dr. B. "instead of being diminished, will always be elevated exactly in proportion as it understands itself, weighs justly its own powers, and professes simply what it can accomplish. It is no derogation from the importance of our art, that we cannot always controul the events of life and death, or even of health and sickness. The incompetency which we feel in this respect, is shared by almost every man upon whom the great responsibilities of society are devolved. The statesman cannot controul the destinies of nations, nor the military commander the event of battles. The most eloquent pleader may fail to convince the judgment of his hearers, and the most skilful pilot may not be able to weather the storm. Yet it is not the less necessary, that responsible men should study deeply and understandingly the science of their respective vocations. It is not the less important, for the sake of those whose safety it is, and always will be, committed to their charge, that they should look with unbiassed judgment upon the necessary results of inevitable causes. And while an earnest and inquiring solicitude should always be kept alive in regard to the improvement of professional knowledge, it should never be forgotten that knowledge has for its only just and lasting foundation, a rigid, impartial, and inflexible requisition of the truth."

XV. *Thèse soutenue devant le Jury, en Juin, 1835, sur la question suivante: Existe-t-il des Agens Thérapeutiques dont l'Effet ne soit observable que sur les Solids ou sur les Fluides?* Par E. RUFZ, (de la Martinique,) Docteur en Médecine, &c.—"Réputer presque comme faux tout ce qui n'est que vraisemblable."—DESCARTES. PARIS, 1835. 4to. pp. 60.

Thesis defended before the Jury, in June, 1835, upon the Question—Does there exist Therapeutic Agents, the Effects of which are observable solely upon the Solids or upon the Fluids? By E. RUFZ, (of Martinique,) M. D. &c.

This is an extremely judicious essay upon a highly interesting subject. We believe that there does not exist at the present day any sect of physicians professing the old humoral notions, that the character, phenomena, and causes of

diseases, namely, are to be explained entirely by certain morbid changes in the fluids; nor do we know of any so absolutely wedded to the doctrine of solidism, as to overlook entirely the modifications which the fluids undergo in various diseased states of the organism. We fear, however, that in the leading pathological systems now in vogue, too little attention is paid to the latter—that, in other words, the fluids are not taken sufficiently into account in our investigations into the nature of morbid phenomena, and the various agents concerned in their production.

This is not, however, the proper occasion to enter, even were we inclined, upon any of the points connected with this important subject. The morbid changes which occur in the fluids are daily arresting more and more the attention of physicians, and the facts which must, before long, be accumulated in relation thereto, cannot fail, we are persuaded, to produce to a certain extent, a modification of existing doctrines.

The therapeutical proposition discussed by M. Rufz, has only an indirect bearing upon the subject just alluded to, and so far as it has any relation to it, notwithstanding the praise we are inclined to bestow upon the essay, the facts and arguments adduced by the author will be esteemed perhaps a refutation of our own views. M. Rufz has very correctly remarked, that an all-important preliminary to any investigation into the morbid states of the fluids and of the effects produced upon them by remedial agents, would be a perfect knowledge of their normal condition. This, however, we certainly are very far from possessing; and hence we admit that any positive conclusions in regard to their pathological states, must always be received with a great deal of caution.

For the satisfaction of our readers we translate the general conclusions at which M. Rufz has arrived after a very full review of the subject under discussion.

1. "Every therapeutic agent acts at the same time upon both the solids and fluids.

2. "There is no therapeutic agent, the effects of which are restricted solely to the fluids or to the solids.

3. "As we may very correctly agree to speak separately of the fluids and of the solids of the human organism, notwithstanding it is impossible in fact to make a real distinction between them, so we may also agree to have in view merely the alteration of the fluids when this is more considerable and evident than the alteration of the solids.

"Thus, in regard to the alkalies, we may say, that as therapeutic agents they act especially upon the urine, without taking into account their action upon the kidneys, considering only the changes which take place in consequence of their employment in the secretion furnished by the latter.

"The same in regard to the solids, passing over what is referable to the afflux of fluids into their tissues, we may speak of their inflammation, of their ulceration, the different alterations of their texture, and of the functions which they perform. But, excepting in this conventional mode of speaking, it is impossible to separate the observable effects of a therapeutic agent upon the fluids from its effects upon the solids.

4. "Conventionally speaking, the effects of therapeutic agents upon the solids are manifested; 1, by the modifications produced in their functions; different disturbances of function; 2, by appreciable modifications produced in their tissues; paleness, flaccidity, injection, &c.; 3, by the actual diseases resulting from the action of those agents, such as inflammation of the skin from a blister; the vaccine pustule, after the introduction of vaccine virus; the ulce-

ration of the mouth, and tremors of the limbs after the employment of mercury.

5. "The effects observed in the fluids are, 1, augmentation of quantity without other change; 2, predominance or diminution of one or more of their constituent elements, with or without change from the normal quantity of the fluids; 3, presence in the fluids of the therapeutic agent without any other modification, the fluids serving only as a vehicle; 4, chemical modifications of the fluids, referable to the therapeutic agent.

6. "Of the three kinds of fluids which we have admitted, (blood, lymph, and chyle, and the secretions,) the first and the last only have presented observable traces of the action of therapeutic agents. We know nothing of their action upon the lymph and chyle.*

"Among the secretions the urine is the one which furnishes to the greatest extent traces of the action of remedial substances.

"With respect to the gaseous and vapoury fluids, and especially the imponderable fluids, which are not appreciable by our senses, such as the nervous and magnetic, the action upon them of therapeutic agents is in no degree observable. In the present state of science in relation to this point there exists nothing but hypothesis—*melius est sistere gradum quam progredi per tenebras*.

7. "In the same conventional sense we may say, that we intend to act upon a certain one of the solids; that is to say, upon the functions of which it is the organ,—as for example upon the heart, with the view of moderating its action; or we may propose to act upon a certain fluid; in other words, upon the secretions, as for example upon the urine, in order to augment its quantity and modify its properties.

8. "Although we may propose to ourselves the foregoing indications, we should keep constantly in mind that they are of importance only so far as the effects of the remedies employed for their fulfilment are confirmed by accurate and repeated observations.

9. "The indications drawn, *a priori*, from mere physiological or chemical data, should be considered only as experiments to which recourse is had in the absence of the positive inductions of experience. In a word, therapeutics as well as pathology must rest entirely upon observation. By observation we do not, however, understand a blind empiricism, which, without taking into account, either the age of the patient, the character of his disease, its degree of intensity, or the period at which the remedy is employed, is content with the affirmation that in such a case a certain therapeutic agent has cured this or that disease.

10. "In order to determine accurately the efficacy of a remedial agent, it is necessary that all the observable circumstances of the disease should have been strictly recorded, noting the negative as well as the positive symptoms, in order that nothing shall be left to memory, and that all precautions are taken to guard against the numerous sources of error. It being at the same time understood that the remedy is to be employed in the simplest possible form, by itself and at regular periods, in order that the problem shall not be complicated in consequence of the action of several agents employed at one and the same time.

11. "After a large number of observations shall have been faithfully collected, we should compare them with each other, analyze them, and draw no inference not sustained by the facts, either in relation to the effects of the remedy, or the duration, termination and symptoms of the disease against which it has been employed. This first series of facts are to be compared with other series of similar facts, collected in the same manner, but from cases in which the disease has been left to its natural progress, or at least in which other therapeutic

* "The different states of the chyle according to the difference of the food are of course not taken into account."

agents have not been employed. Then only will it be possible to decide upon the value of the remedy in question.

12. "When the effects of any remedial agent have been thus established, we should compare the therapeutic with the physiological effects, produced by the same agent, and which have been equally well-established, to ascertain whether the one class is capable of being explained by the other. Thus, presuming that the alkalies cure the gravel, we should investigate the mode in which their effects in this case are to be explained.

"But how cautiously and discreetly is it necessary to proceed in drawing similar deductions! How carefully should we weigh the facts and examine on all sides our explanations, before attempting to generalize; being very certain that from the materials we possess, we are capable of forming abstract propositions; distrusting, especially, universal explanations; questions which have no limits; solutions that nothing can render inaccurate.

"An observation thus extended is not a pure or blind empiricism. It, on the contrary, requires the exact and rigorous exercise of our reasoning faculties upon well authenticated facts; and it repudiates all vague and diffuse reasoning, proceeding from analogy to analogy, and operating only upon the fictions of our imagination. It is to an observation thus extensive and practical, that we owe all that is most important in medical science." D. F. C.

XVI. *Remarks on the Abracadabra of the Nineteenth Century; or on Dr. Samuel Hahnemann's Homœopathic Medicine, with particular reference to Dr. Constantine Hering's "Concise View of the Rise and Progress of Homœopathic Medicine."* By WILLIAM LEO-WOLF, M. D. New York, 1835. 8vo. pp. 272.

To compose a work of nearly three hundred pages, octavo, for the purpose of refuting the errors of homœopathy, is truly like breaking a fly upon the wheel.

That a tissue of absurdities, such as Hahnemann has attempted to palm upon the world under the sober guise of a rational system of pathology and therapeutics, should find a single advocate among men endowed with common sense, is most unquestionably a matter to be wondered at, and will, no doubt, constitute a curious subject for comment when the history of the medical opinions of the nineteenth century shall hereafter be written. But we doubt very much, whether any attempt to reason the advocates of the system out of their folly, will be productive of much good. Ridicule, and not argument, is the remedy best adapted to their case.

Contradicting, as it does, the best established facts in pathology, and subversive of our every day experience of the effects produced upon the organism by those agents which constitute the *materia medica*; nevertheless, the very novelty and mysticism, we had almost said the very absurdity of homœopathy, are well calculated to recommend it to minds that delight in whatever is marvellous, inexplicable, and obscure. Like many of the wild hypotheses that have preceded it, the present will have its day, before it is allowed to sink with them into oblivion.

That Hahnemann may be, to a certain extent, a man of talents—that some important truths may be contained in his writings, or that in certain chronic affections the practice he recommends may be even better calculated to effect a cure, than the polypharmaceutic and perturbative modes of treatment pursued by too many physicians, are points we have no desire to dispute. It is to

his system as a whole that we object—we deny the truth of its fundamental principles, and are prepared to prove that in many of its details it contradicts the plainest dictates of common sense—the most positive and best substantiated facts. We doubt whether the few grains of wheat to be culled from the system would compensate for the labour required to search for them amid the mountain of chaff with which they are enveloped.

A late French writer has presented in a few paragraphs an admirable expose of the homœopathic doctrines. We shall offer here a very free translation of some of his remarks.

There are three very distinct propositions embraced in homœopathy. 1. That diseases artificially produced, cause immediately to cease, radically and permanently, those spontaneous diseases which are analogous to them in character. 2. That the homœopathic remedies have the property of inducing at the will of those who know how to employ them, artificial diseases of a very distinct and determinate character. 3. That remedies are efficacious, although attenuated to a degree which appears impossible, (Hahnemann's own words,) to vulgar physicians, whose minds embrace only gross and material ideas.

These propositions comprise the whole of the homœopathic doctrine—a doctrine which, like every other, however wild and ridiculous, is presented by its author as the general expression of results derived from experience. It may be very seriously objected to the homœopathists, that they promise and assert too much. They have, in fact, been so positive as to the accordance of their hypothesis with experience, and the absolute certainty of its results, that it is precisely the test of experience that cause those allusions, with which they have for a period amused all Germany, every day to vanish.

Other medical sectaries have been more wise, or at least more prudent—expecting their system to fail in some cases, they have left ample room for the occurrence of circumstances altogether accidental and independent of their will—they admit freely that the concurrence of certain facts may place bounds to the good effects of their remedial measures; while on the contrary, the homœopathists assert positively that their system is infallible; that the cures produced by it are equally certain, prompt, radical, and durable.

As an example of their therapeutics, Hahnemann assures us, no doubt with the best faith in the world, that a single drop of *drosera*, in the thirtieth degree of dilution, shook at each degree twenty times, endangered the life of an infant labouring under whooping-cough, to which it was administered; but when the same was only shook twice at each grade of solution, a portion of sugar of the size of a poppy seed moistened with it, was sufficient to obtain an easy and prompt cure of the disease, (*Organon*, §39.) But this is not all—a person endowed with the greatest sensibility, may take, we are told, several grains of gold leaf without experiencing the least effect in consequence; but from the trituration for one hour of one grain of gold, with one hundred grains of sugar of milk, there results a preparation which has already many virtues. Take one grain of this, and triturate it again for another hour with one hundred grains of the sugar of milk, and thus continue to act, until each grain of the preparation shall contain only a quadrillionth part of a grain of gold, and we have then, says Hahnemann, a remedy in which the medicinal virtue of the gold is so developed, that it is only necessary to take one grain of it, and enclose it in a

bottle, and cause it to be respired for a few minutes by a melancholic in whom the disgust of life has produced a tendency to suicide, and in the course of an hour the patient will be emancipated from the influence of his evil spirit, and experience a renewed desire for living.

They who oppose homœopathy should, instead of saying to its advocates, if a single drop of a remedy diluted to a homœopathic extent is capable of retaining still its virtues, then were we to throw one ounce of bark into the lake of Geneva, this would be sufficient to medicate all the inhabitants of the surrounding country; in place, we say, of presenting such an objection to the doctrine, which Hahnemann has really taken up very seriously, and has shown that the terms of the comparison are inexact, they should introduce the homœopathist to a suicidal monomaniac, or present to him a child affected with whooping-cough, and beg him to cure either immediately and radically by means of his homœopathic fractions. In a word, they should say to him, you who are every hour referring to experience in support of your theory, you have now the opportunity to convince us fully of its truth by the test of experience—we abide the result!

In the work before us, Dr. Wolf has exposed in detail the leading inconsistencies and absurdities of homœopathy—displaying in a very happy manner the folly of many of the propositions it embraces, and treating with just severity the trickery to which the apparent success that has heretofore attended it, is mainly to be attributed. To those who desire to obtain with little trouble a knowledge of the leading peculiarities of the doctrine, the exposition of Dr. Wolf will be peculiarly acceptable.

These remarks relate to the work only so far, however, as it professes to be a critique upon the views of the homœopathists; were we to enter into a review of the medical notions occasionally thrown out by the writer, we fear we should be obliged to treat them with nearly as much severity as we have treated those of Hahnemann.

D. F. C.

XVII. *Instituzioni Patologiche di*, FRANCESCO LUIGI FANZAGO, Professore di Patologia Generale e Speciale, di Medicina Forense, di Publica Igiene Nella R. Università di Padova. Tradotte da Luìgì Michelotti Dottore in Medicina. Seconda Edizione. Two volumes, 12mo. pp. 205—166. Livorno, 1824. *The Pathological Institutes of F. L. FANZAGO, &c.*

Among the several works on general pathology which have been presented to the public within the last twelve or fifteen years, by the physicians of Italy, that of Professor Fanzago holds a very distinguished rank. And we conceive deservedly so. The author has, it is true, confined his remarks almost exclusively to the general consideration of disease, without reference to the particular portion of the organism in which it occurs, or the important modifications in its various phenomena resulting from the structure, functions, and connexions of the organ principally affected; he has nevertheless, notwithstanding the difficulties which are inseparable from the investigation of morbid action in the abstract, and its tendency to the introduction of hypothetical reasoning, presented a series of highly important pathological deductions, many of which are the more interesting from their intimate connexion with physiology, and their direct practical application.

We confess that from the correctness of some of the professor's opinions we widely dissent, and should be inclined to set down others rather as ingenious surmises, than as legitimate inferences from well-established facts. In the general views he has advanced in relation to morbid action we find, however, much more to praise than to condemn.

Professing to base his pathological deductions strictly upon data drawn from the physiology of the human organism, Professor Fanzago, as may be inferred, is in the correct sense of the term a vitalist—with him all morbid phenomena, however diversified in their character, are produced by a derangement of the natural functions of the several organs of the system. He is an advocate likewise of the doctrine which refers to all diseases a local origin—which teaches, in other words, that disease consists primarily in the modification of the vitality of one or more organs; the general symptoms by which they are in certain cases accompanied being dependent upon, or at least kept up by lesions often of very limited extent.

While we consider these points as essential to a correct system of pathological doctrines, we by no means wish to be understood as admitting a recognition of them to be alone an evidence of its accuracy. In the work before us, many, in our opinion, important errors occur in those details the most intimately connected with the points referred to.

It is not our intention on the present occasion to offer any thing farther than a general notice of the work of Professor Fanzago; to enter into an examination of his doctrines, even of those which may be considered as peculiar to himself, would require more time and space than we can at present afford. We recommend the work, however, to our readers as a very useful and interesting manual of general pathology, and one calculated, in our opinion, to excite them to study the more recent works of the Italian physicians, which, considering their real value, are certainly too much neglected by the members of our profession in this country.

D. F. C.

XVIII. *Popular Physiology; being a familiar Explanation of the most interesting facts connected with the Structure and Functions of Animals, and particularly of Man, adapted for general readers.* By PERCIVAL B. LORD, M. B., M. R., C. S. of the Bombay Medical Establishment. Published under the direction of the Committee of General Literature and Education, appointed by the Society for promoting Christian knowledge. London, 1834. 12mo. pp. 500.

We view with no little pleasure each new attempt that is made to render popular the study of physiology. In all that relates to his own organization and the vital laws to which it is subjected, every member of the human family has a deep and abiding interest—many of the most pernicious errors and customs of society, in relation to education, dress, occupation, food and drink, and the location and construction of dwellings, as well as to the opinions entertained in regard to the means of preventing and curing diseases, have their rise mainly in an ignorance of the various functions of the living system, the influence which they reciprocally exert upon each other, and the manner in which they are acted upon by external agents. It is at least certain that the errors and customs to which we allude can only be effectually removed, by

causing the study of physiology to enter as an essential item into every scheme of general education. We are indeed somewhat surprised that so important a branch of natural philosophy should have been so long allowed to remain the sole property of the medical profession.

The system of popular physiology of Mr. Lord is a very interesting and excellent manual of the science, and well adapted for the purpose for which it is professedly published, the instruction, namely, of the general reader.

"To investigate the laws of animated nature," remarks the author in his second chapter; "to trace the plant from the seed, or the animal from the ovum; to observe them developing the qualities, or performing the duties to which they have been destined by an all-wise Creator; to inquire into the beautiful structure and arrangement of organs by which they are enabled to 'live and have their being;' to notice their rise, progress, and gradual decay, from the time that, radiant with youth and beauty, they spring up to life and the light of day, until, exhausted and worn out, their appointed time being come, they again return to the earth 'whence they were taken.' Such are the interesting, the all-absorbing objects of a science that has hitherto been considered too dull and abstract to engage the attention of general readers, too theoretical and inconclusive to extend beyond the schools of medical philosophy.

"That in the pursuit of physiological knowledge there are many difficulties to be overcome, it is not attempted to deny. 'The Gods,' says the old poet, 'have placed labour and toil in the way leading to the Elysian fields.' But many of these difficulties arise from the subject being enveloped in technical language, and interspersed with technical details, interesting only to the profession for which works on this subject have hitherto been composed. The habit, too, of presupposing a knowledge of anatomy, which general readers cannot be supposed to possess, has increased the obstacles that lay in the way of this proper study of mankind."

In the present little work, an attempt has been made to obviate some of the above difficulties. The prominent facts of the science are stated, as far as is practicable in familiar language. Anatomical details are introduced to the extent necessary for understanding the physiological matters under consideration, and well executed wood-cuts are resorted to whenever they can be made an efficient mode of explanation.

D. F. C.

XIX. *Essays and Lectures on Medical Subjects.* By JOHN P. HARRISON, M. D. Professor of Materia Medica in the Cincinnati College. Philadelphia, 1835. 12mo. pp. 192.

These essays and lectures are evidently the productions of an active and vigorous mind—a mind nevertheless, that we should shrewdly suspect, is a *little* more fond of general declamation than of a course of close inductive reasoning; a mind we fear more ready to join in the sneer at modern theories in physiology and medicine as too fanciful and hypothetical, than to sit down industriously to their investigation, and to test their accordance with the facts and arguments adduced in their support. It is this perhaps which has lead the author not unfrequently into the error of attributing absurdities to doctrines to which they have no other relation, excepting that created by his own imagination, and of setting down as opposed by experience that which in fact, all experience confessedly establishes.

With all their faults, the essays and lectures before us contain nevertheless many excellent things, and if they be not marked by great originality, they at least exhibit no little vigour of thought.

We regret, however, that more attention had not been paid to the correctness of the press—numerous typographical errors occur, often under circumstances where they show to the greatest disadvantage in a professional work, namely, in technical terms and proper names. Thus homœopathy is invariably spelled homæopathy, and it is said to be derived from the Greek *ὁμοῦν* *alike*, and *πάθος* *disease*; spiral marrow occurs for spinal marrow; Bouilland for Bouillaud, &c. &c. In a work like the present, correctness, if not beauty of typography, was at least to be expected. D. F. C.

XX. *A Popular Essay on the value and present condition of the practice of Vaccination; embracing a consideration of all the points important to be understood by the heads of Families, and particularly of Revaccination.* By a Physician. New York, 1835. 8vo. pp. 38.

The present pamphlet appears to have been written for the very laudable and important purpose of placing before the general reader the leading facts, in relation to the cow pox, which, when carefully weighed, must have a tendency to confirm, rather than diminish the confidence of every reflecting physician in the protective powers of vaccination.

For the accomplishment of this object, the essay is well adapted, and we should like to see it extensively circulated among the heads of families. We know of none on the same subject in which we find so little to object to, either in relation to what is advanced as fact, or in reference to the general conclusions of the author. Even on the subject of revaccination we are not inclined to dispute with him as to the correctness of his views, provided, always the revaccination is not resorted to under the supposition that the protective influence of the first operation becomes diminished, and finally lost with the lapse of years, but solely as the only certain means of testing whether the patient's system is fully protected, when we are ignorant of the facts connected with the first vaccination. D. F. C.

XXI. *A Manual of Aphorisms in Chemistry; the Chemico-Pharmaceutical Preparations and Decompositions of the London Pharmacopœia, and Toxicology, Comprehending the Symptoms, Diagnosis, Morbid Appearances, Antidotes, Treatment, and Methods of Detecting Poisons, &c.* By ROBERT VENABLES, A. M., M. B. Oxon. Physician to the Fore Street Dispensary; Lecturer on the Theory and Practice of Physic, and on Medical Jurisprudence and Toxicology. London, 1834. p. 251. 12mo.

We have been much pleased with this little work, which comprises in a small compass a great variety of information of the highest value to the medical chemist. By presenting his doctrines and facts in the form of aphorisms, and thus avoiding useless words and unimportant details, the author has been enabled

not only to notice the most valuable chemical agents, explain their mutual actions upon each other, and the nature of the resulting products, but also to give the rationale of the most important chemical formulæ of the pharmacopœia, as well as to present a well arranged synopsis of the present state of knowledge as regards the verification and detection of poisons. Although several errors are to be detected, they are generally of so trifling and unimportant a character, as not to detract from the general value of the work, which we can with confidence recommend to students as one of the best compends on medical chemistry we have met with.

One of its peculiar merits is, that no process is described without an explanation of every step of it being given. The advantages of the plan adopted by the author will, however, be better appreciated by giving an example:—

“*Aph.* 26. Aluminum may be procured by decomposing chloride of aluminum by potassium at a moderate temperature. The reaction is so violent, that it is attended with intense heat and light, and must therefore be performed in a platinum crucible, though it may be executed in one of porcelain.

“*Rationale.*—When the potassium is brought in contact with the chloride of aluminum, the chloride is decomposed, and its chlorine unites with the potassium, forming chloride of potassium, and the pure aluminum is set at liberty. The quantities must be accurately adjusted, both to prevent the sublimation of chloride of aluminum during the process, or the generation of an alkaline solution, when the product is put into water. When quite cool, the whole is put into water, by which the saline matter is dissolved, and hydrogen in small quantity, but of an offensive odour, is disengaged. A gray powder separates, which, after being well washed in cold water, is pure aluminum.

“27. Aluminum has the following characters:—

“*a.* It is a gray powder, which in the sun-shine appears to consist of minute metallic scales, very like platinum.

“*b.* Its metallic lustre is rendered very evident by pressure in an agate mortar, or on steel.

“*c.* In fusion it is a conductor of electricity, but in powder not.

“*d.* It requires for fusion a temperature higher than that required for the liquification of cast iron.

“*e.* It takes fire in the open air, when heated to redness, and alumina is formed of considerable hardness.

“*f.* It burns when heated to redness, in pure oxygen, with a most vivid light on the extrication of intense heat, and the product is a sub-vitrified alumina of a yellowish colour.

“*g.* It is not affected by concentrated sulphuric or nitric acids at common temperatures; but is dissolved in sulphuric by aid of heat, and sulphurous acid is given off.

“*h.* In diluted acids it dissolves, with the extrication of hydrogen gas.

“*i.* Dilute solutions of ammonia or potass produce the same effects, and render large portions soluble,” &c. &c.

In the second division, which treats of chemico-pharmaceutical preparations and decompositions, the same method is pursued, the process being first given, followed by its rationale and other useful details. A companion to our National Pharmacopœia on this plan, with the addition of observations on the different formulæ, and the reasons for adopting them, would be of extreme advantage to pharmaceutical students, and in fact should always accompany works of this character. As it now stands, too many of our druggists, from a want of che-

mical knowledge, are unable to appreciate the different steps of a complicated process, and hence are unable to account for, or remedy any anomalous or contravening phenomena that may present themselves.

The third division on toxicology is, perhaps, the most valuable portion of the work, and should command the closest attention, especially those aphorisms relating to antidotes and the detection of arsenic, in which the author has wisely given the preference to the most simple and readily executed processes, rather than those of a more complex character.

R. E. G.

XXII. *Lehrbuch der Geburtskunde. Ein Leitfaden bei Akademischen Vorlesungen und bei dem Studium des Faches.* Von Dr. DIETR. WILK. KEIRIR. BUSCH, Königl. Preuss. Medicinalrath, ord. Professor der Medicin an der Königl. Friedrich-Wilhelms-Universität zu Berlin, Director des Klinischen Instituts für Geburtshilfe, Mehrerer gelehrten Gesellschaften Mitglieder. Zweite Auflage. Marburg, 1833. pp. 784.

Manual of Obstetrics. A Guide to Academical Lectures, and to the Study of the Subject. By DIETR. WILK. KEIRIR. BUSCH, &c. &c. Professor of Medicine to the Royal Frederick William University at Berlin, &c. &c. Second edition. Marburg, 1833. pp. 784.

Although the medical, and other scientific institutions of Germany are unknown, in their details, to the large mass of our community, enough of their general character has reached this country to cause them to be highly appreciated. There is perhaps no country, in which such facilities are afforded for the acquisition of scientific and literary information, and none in which the object is pursued with more real enthusiasm. A good deal of this is owing to the competition, which is permitted amongst the teachers, even in the largest Universities, but more to the habits of patient and laborious research, which are so characteristic of the German student.

In the department of medicine—in all its branches—Germany has always had distinguished investigators, some of whose names are familiar to every medical student. If, indeed, we cast our eye over the catalogue of medical works, which appeared during the last century, we will be surprised to discover the vast proportion, which the emanations from the German press have over those of every other country. To the branch of obstetrics not less attention has been paid than to the others; whilst their numerous institutions have enabled them to collect many statistical and other facts, which have largely enhanced our acquaintance with the subject. Weikmann, Walther, Wagner,—the Steins, Stark, Von Siebold, Schmitt, Schmidt, Ritgen, Roederer, Osiander, D'Outrepont, Naegele, Martens, Mende, Lobstein, Jörg, Klein, Horn, Hagen, Von Froriep, Ebermaier, Carus, Bössel, and the author of the work before us, are well-known amongst their countrymen—and many of them abroad—for their researches in this direction, and for their published contributions to obstetrical science.

The literature, by the way, of this department of medicine, is probably far more extensive than is suspected. Dr. Busch has collected the titles of 2,475 works; some of which, however, relate as much to other branches of the science as to this; but, on the other hand, the list is by no means complete.

In his introduction, the author expatiates, at some length, on the importance of obstetrics—at the present day, perhaps, an unnecessary occupation of his, and the reader's time. Although, until of comparatively late years, left altogether to the uninstructed, it is now justly regarded as one of the most interesting and valuable departments of our science. In referring to the value of lying-in establishments, both for learning and improving the art of midwifery, the author gives the following list of the different institutions of the kind in the various parts of Germany, with the annual number of births, and the present obstetrical directors,—including, of course, the most celebrated existing practical obstetricians of his country.

Clinical Obstetrical Institutions at—	Number of Births annually about—	Present Directors.
Berlin, (Charité) - -	300	Kluge.
(University) - -	270	Busch.
Bonn - - - -	130	Stein.
Breslau - - - -	180	Betschler.
Dresden - - - -	270	Haase.
Erlangen - - - -	20	Bayer.
Giessen - - - -	100	Retgen.
Göttingen - - - -	150	Mende.
Greifswald - - - -	36	Berndt.
Halle - - - -	50	Niemeger.
Heidelberg - - - -	150	Nägele.
Jena - - - -	50	Stark and Walch.
Königsberg - - - -	50	Henne.
Landshut - - - -	50	Alsamer.
Leipzig - - - -	100	Jörg.
Marburg - - - -	100	Von Siebold.
Münken - - - -	150	Weisbrod.
Strassburg - - - -	70	Lobstein.
Tübingen - - - -	70	Riecke.
Vienna, <i>a.</i> - - - -	2200	Klein.
<i>b.</i> - - - -	60	
Würzburg - - - -	150	D'Outrepont.

Making in the whole, 4,700 children annually born in the chief Lying-in Institutions of Germany.

The fact of the work before us having passed into a second edition, exhibits the estimation in which it is held in Germany. It would not, however, we think, meet with equal favour in this country; and this, mainly, in consequence of the slight attention which Dr. Busch has given to the physiology of the pregnant state, and to those deeply interesting topics of fetal anatomy and physiology, which have lately agitated the medical world. There is scarcely, indeed, a point, on which a difference of opinion exists, to which the author has directed his readers attention.

The work is divided into four sections, which are preceded by an introduction relating to the history of obstetrics, of which we cannot say much. The first section is on the "Propædeutics* of Obstetrics," comprising a brief account

* Preliminary or preparatory instruction; from *πρ*, "before," and *παιδευτικός*, "belonging to instruction;"—itself from *παις*, "a child."—R. D.

of the female and her reproductive organs; the second is on the "Physiology and Dietetics of Obstetrics;" the third on the "Pathology and Therapeutics of Obstetrics," and the last on the "Zechnies of Obstetrics, or the Doctrine of Obstetrical Operations."

At the termination of the volume the author has given—under the head of *Literatur*, the titles of the various works relating to obstetrical science—directly or indirectly. These, as we before remarked, amount to nearly 2,500 volumes.

R. D.

XXIII. *Observations on the Causes and Treatment of Ulcerous Diseases of the Leg.*

By J. C. SPENDER, Member of the Royal College of Surgeons in London.
8mo. London, 1835. pp. 210.

We are much pleased with this little volume on several accounts. It is written in a clear and unpretending style; the few errors of grammatical construction which we notice in its pages, do not materially obscure the meaning of its author, the repetitions which occur with sufficient frequency to prove in some degree fatiguing, are fairly attributable to the obvious fact that the treatise has been written *currente calamo*, and to this circumstance it owes excellencies which far outweigh the defects just mentioned.

The work is divided into three principal chapters, on the causes and classification of ulcers, on the general principles of treatment, and on the application of these general principles. To these is added a short chapter on the propriety and safety of healing ulcers of the leg. Waiving all notice of the last chapter, which in its nature resembles an appendix, and contains nothing that demands special attention, we may safely state that few treatises have fallen under our observation in which the arrangement of the subject and the justice of the deductions are more strictly in accordance with the rules of logic. If the arguments of Mr. Spender are vulnerable, it is his data, and not his reasoning, that must be made the object of attack. His principal propositions are extremely simple; they amount, in few words, to these: 1st. The dependent position of the inferior extremity is not the cause of the frequency of ulcers of the leg. 2d. The intractable character of such ulcers is due to a diseased condition of the extremities, which very generally consists in, or arises from a varicose condition of the veins, and not to the simple pressure of the superincumbent column of blood. 3d. The most rational plan of local treatment for ulcers of the leg, is, in a vast majority of cases, to imitate nature in the cure of slight injuries, by causing the part to become covered with an artificial scab. 4th. The most correct method of relieving the diseased condition of the member, which is the cause of the ulceration, is the application of methodical pressure to the limb, commencing at the toes and extending to the knee or thigh. 5th. The exceptions to the two last rules are very rare.

All that is positively new in this treatise, is the peculiar method of forming the artificial scab, and the extension of the treatment by pressure to cases in which its application has been generally condemned, and the use of greater force than is usually considered warrantable;—but we are not one of those who value the merit of all contributions to surgery according to their novelty alone.

The author is a partisan, and we cannot help suspecting that he has given

rather too ready credence to the almost universal success of his method of treatment, in consequence of his disgust at the aimless and irrational plans which have been pursued in most of the cases brought before him; and his observation has extended to hundreds of cases. To judge from the picture he presents, it would appear that in London, almost every ulcer of the leg, when the patient is unable to remain for months in a recumbent posture, is bundled up in a poultice, to be renewed every night and morning, uselessly and hopelessly for years! for rest and position are there held by most surgeons not as mere adjuvants, but as fundamental points in the treatment. Action and reaction are equal, and it is scarcely surprising, under such circumstances, (always supposing that the facts are not too highly coloured,) that Mr. Spender should be led to reject entirely, and even to condemn all appeals to rest and position. We have known a patient with a simple fracture of the middle of the shaft of the os humeri, recommended to enter one of our large hospitals by a respectable practitioner, whose first order was to envelope the limb in a bread and milk poultice! but this is, with us, a mode of treatment which certainly would not meet with general approval; the injurious effects of continued poulticing are well understood, and bad consequences from the practice are but seldom witnessed.

The grounds on which the author rests his first proposition are these:—1st. It is unreasonable to suppose that nature would place parts in such a position as to render them incapable of performing their proper functions without rendering themselves subject to diseased action, and moreover, if the dependent position of a leg were indeed the cause of ulceration, all legs would be ulcerated, *because all legs are dependent*, &c. These grounds are quite sufficient to show that the location of ulcers of the lower extremities is not the only, or immediate cause of the disease. 2d. A tabular view of one hundred cases of ulcers of the leg, shows that in seventy-nine cases the veins of the limb were varicose, hence the varicose condition is one of the principal causes of the frequency of these ulcerations, &c. This position is very fully illustrated in the treatise, and it is clearly proved that Mr. B. Bell, Sir E. Home, and other writers on ulcers, who admit the varicose ulcer as one of the species in their arrangements, have not attached enough importance to it. We think Mr. Spender is fully justified in regarding ulcers of the leg unattended by diseased veins, as exceptions to a general rule; but he strains his argument a little when he employs the fact just mentioned, to prove that the position of the limb is of no importance as a cause of ulceration. The question, whether the dependency of the member is one among the causes of the varicosity, still remains open. This question involves both mechanical and physiological data, not generally understood, and is far too complex to be argued on the present occasion; but the lights of experience so fully determine the fact, that the position of parts have a most important bearing on their physiological actions. The pressure of the column of blood on the coats of the veins of the inferior extremities is vastly greater than that which operates on the vessels of other portions of the body. Now, although it is demonstrable that nature has provided these veins with superior powers of resistance on this very account, it must not be forgotten that the customs, vices, and follies that follow in the wake of civilization, are perpetually thwarting the purposes of nature, whose plans moreover are continually disarranged by accidental

forces. A moderately tight garter on the leg will occasion greater distention of the veins, than will a similar ligature on the arm, and for this plain reason; in the existing state of society, the veins of the lower extremity are proportionally weaker than those of the upper. It would be extremely difficult for Mr. Spender to prove that the dependent position of the limb is not among the causes of varicosity, and hence of ulceration. This error in a postulate, is the more to be regretted, because all the practical inferences which follow it might have been supported on less debateable grounds. On the second proposition little need be added; but it is worthy of remark, that Mr. Spender's observations furnish a very large proportion of irritable ulcers among those which result from varicosity.

In speaking of the advantages resulting from defending ulcerated surfaces by means of artificial scabs, he offers many interesting remarks on this important plan of treatment, and proves that it is often made available by the aid of methodical pressure, in cases in which a natural scab is sometimes productive of mischief.

The author condemns the practice of applying stimulating dressings to ulcers, except in a few rare cases; and it is remarkable that the exceptions include a very fair proportion of irritable ulcers; while not a word is said of narcotic ointments, which we always have considered and still continue to consider, indispensable adjuvants in the management of many cases. He likewise condemns the *general application* of adhesive strips to indolent ulcers, thinking them too partial in their action; and he dwells with cogency upon the impropriety of the custom of washing the sore with water, or dilute alcohol at almost every dressing, as is so commonly practised in all hospitals. His reasonings on this subject are sufficiently at variance with the results of cold irrigation in wounds, as recently reported in Paris. His main dependance, in a great majority of cases, is a peculiar ointment of chalk and cerate; the former in such proportions as to saturate the unction, so that when the latter is absorbed by the bandages, a portion of the chalk is left adhering to the skin around the ulcer, and also to its margin, where it hardens in combination with a portion of the pus. As the ulcer is never washed, this crust increases with each dressing, until the face of the sore is covered, and the cicatrization advances very rapidly beneath. This mode of preparing the chalk is said to be greatly preferable to the washes, or the dusting with the dry carbonate, in common use before; for it forms a more level and regular crust, and by collecting very gradually, is not liable to create mechanical irritation.

Whenever the veins are varicose, the chalk ointment is invariably aided by the methodical bandages, applied in the manner usual with us. The irritability of the ulcer is never made an objection to the bandage, but when pressure is very painful in the first instance, the roller is carried up with great firmness to the lower angle of the ulcer, and continued lightly over the sore and the superior part of the limb. Under this treatment the painfulness of the part is rapidly diminished, and a short time suffices to enable it to bear the treatment recommended in indolent ulcer.

The force employed by Mr. Spender in the application of the bandage is startling! He usually draws each turn with as much strength as his arm can conveniently exert, and in some instances he employs *nearly all his power!*

We presume he is not an athlete; for assuredly most surgeons in following

this plan to the letter, would produce gangrene of the toes. The most important point in the treatment recommended, is the inculcation of the propriety of exercise during the treatment. *The patient is never permitted to remain in bed.* There can be no doubt that an ulcer thus healed, would be more effectively and permanently, though more slowly healed than when treated with the limb in an elevated position.

The practicability of the cure depends entirely upon the accuracy and permanency with which the roller is secured. Unfortunately, the power of applying a bandage with skill, is the rarest accomplishment of surgeons. To judge from the concluding pages of this work, it appears that when the treatment is completely successful, the roller must be worn permanently in many cases as a preventive measure; but even this necessity may well be borne by those unfortunates whose condition is too often hopeless under the ordinary attempts at cure.

Tabular results of success the author has not given us, but the following statement of one hundred cases possesses some interest, and we therefore extract it.

Varicose, 79, of which were simple, 41; very irritable, 27; very indolent, 11.
Non-varicose, 21, “ “ 15; “ 4; “ 2.
Of the whole number, 68 were female; 32 males.
Of the varicose, 59 “ 20 “
Of the non-varicose, 9 “ 12 “

The work is replete with valuable thoughts and observations; it treats of a much neglected, though most important subject, and it cannot be perused without advantage. R. C.

XXIV. *Mémoire sur les Communication des Vaisseaux Lymphatiques avec les Veines.*

Par V. FOHMANN, Professeur a l'Université de Liège. Liège, 1832. pp. 21. 4to.

When noticing in our number preceding the last, (p. 174,) the discovery by Professor Fohmann, of the existence of absorbents in the placenta and umbilical cord, we expressed our intention of giving an account, at no very remote period, of some of the other researches of the same distinguished anatomist, and we are happy to be able, on the present occasion, to execute that intention. We are aware that there may be some of our readers to whom the discoveries of Professor F. are now no novelty, as several years have elapsed since they were first announced; nevertheless, as no detail of them has yet been laid before the profession in this country, it appears to us not to be too late to undertake that task.

The researches, an account of which is contained in the memoir under notice, are the results of twelve years labour devoted to the subject, and the author states that he has represented the facts as presented to him in nature, without allowing his judgment to be influenced by the prevailing doctrines on the subject. He, therefore, thinks himself entitled to express the wish that all those who may examine his labours will equally free themselves from the influence of ancient doctrines; as for example, the notion that the lymphatics arise in the

parenchyma of the organs by such delicate radicles as not to be perceptible to the senses, and consequently not to be susceptible of demonstration. That they would farther disembarass themselves of the notion, that the cellular tissue is so profusely distributed through the human body, that if all the other parts which compose its structure were removed, it would represent the entire form. That they will renounce also the opinion that this same cellular tissue serves as the common and sole bond of union to all the other systems.

“No one,” says M. F. “has as yet satisfactorily demonstrated the cellular tissue; and I can prove that the parts which in man are considered to be formed entirely of this tissue, as for example, the greater portion of the umbilical cord, the transparent cornea and the conjunctiva, the serous membranes and the internal tunic of the vessels, consist almost exclusively, or rather entirely, of a network of lymphatic vessels; and that in general every tissue which cannot be coloured by successful injections with fine materials, and which cannot be classed in the osseous, cartilaginous, fibrous, nervous muscular, or epidermoid systems, is not cellular tissue, but a net-work of lymphatic vessels. This disposition is shown by injecting with mercury the ultimate distribution of the lymphatics in the organs; the mass uncoloured by the injection of the blood-vessels is transformed under our eyes into plexuses and net-works of absorbent vessels.”

Previously to entering upon the consideration of the researches of Professor Fohmann, it is necessary to advert to the fact, that when these researches were instituted, it was the prevalent opinion among anatomists, that the only communication between the lymphatics and veins was by the large trunks of the former, which terminate in the subclavians. It is true that the existence of a communication between the absorbent vessels and veins in the lymphatic glands had been shown by the observations of the two Meckel's, (grandfather and father,) of Coiter, Abernethy, and Vrolik; but little confidence was in general given to those observations, and even the circumstance of mercury injected into the afferent vessels of a gland, flowing out of the veins of that organ, was attributed to a rupture of the tunics of these vessels, and not to their anastomoses.

Men of the highest authority, as Haller, Hewson, Portal, Mascagni, Sæmmering, and others, denied the existence of any communication between the lymphatics and veins, except by the known trunks in the clavicular regions. Sæmmering especially, was very positive on this point. “No one has yet clearly demonstrated,” says he “by a preparation, an absorbent vessel emptying into a vein. To distend a vein with air, or to fill it with mercury or wax by a lymphatic remote from such vein, proves nothing. It is necessary to represent the absorbent vessel entirely isolated, and to clearly demonstrate its termination in the vein, in order to destroy all suspicion that these foreign substances passed into it through venous branches which had been cut. I durst then assert, without fear of contradiction, that this demonstration has never been, and never can be made; it is consequently an error to believe in the pretended insertions of lymphatic vessels into the veins.”

As the proof required by Sæmmering had not been furnished, the assertion of this anatomist was concurred in almost universally.

Such was the prevalent doctrine, when in the spring of 1823, Professor F. had an opportunity of dissecting a sea-calf. On examining the viscera, he perceived chyle in the lymphatics of the mesentery; this circumstance appeared to him to be favourable for the introduction of mercury into these vessels; he

consequently undertook to inject them, with the object of making a preparation, in which the glands should be united in one mass or pancreas of Aselli. He was surprised to find that the mercury which he had poured through a great number of afferent vessels into the gland, and which had very regularly filled that organ, did not pass into the efferent vessels, but flowed solely into the veins of the mesentery. Having proceeded to the injection with extreme precaution, he had no reason to suspect that there had been any rupture, and he therefore attributed this phenomenon to the anastomosis of the lymphatics and veins in the gland. This was, however, only a single observation, but he resolved to thoroughly investigate the subject, and he accordingly devoted himself to more extended researches, which he instituted not only on the human subject, but also on a great variety of animals.

He often observed in his experiments, as well on man as on animals, that mercury injected by the afferent vessels into the glands, flowed into the veins of these organs as readily as into the efferent vessels. He was also frequently unable to discover any lymphatic efferent vessels in certain glands of dogs, especially in those of the fore left extremity, a circumstance which he had previously remarked in the sea-calf already spoken of, as well as in a second individual of the same species. In a third experiment upon one of these animals, he finally observed in this gland not only efferent vessels, but also the transfusion of mercury into the veins. He bestowed particular attention to the glands which appeared deprived of efferent vessels; resorted to every means of discovering these vessels; he removed the gland with the surrounding parts, and having placed it upon a porcelain plate, tied the veins through which the mercury flowed out of the gland; he then injected anew with mercury the three or four afferent vascular trunks which passed into the gland, in the hope of introducing the metal into the efferent vessels if they really existed; but all his trials were unsuccessful. The glands and veins were filled with mercury, and ultimately ruptured, without any traces of efferent vessels being discovered.

“Why are not these vessels perceptible,” asks our author, “if they really exist? Why can we not distinguish these efferent vessels, whose size is much greater than that of the afferent, which run into the glands, and whilst these afferent vessels, although more slender, do not escape the sight of the observer?” “I attach,” he adds, “much importance to these glands, because they furnish demonstrative evidence, though not the proof required by Sæmmering, that anastomoses between the lymphatics and veins exist in them, for being deprived of efferent vessels, the chyle and the lymph which they receive, must naturally be conveyed away by other vessels, and this is, and can only be effected by the veins.” p. 5.

To furnish a conclusive proof of the communications between the lymphatics and veins in the glands, Professor F. adduces some experiments which he made on the mesenteric glands of horses. After having ascertained that mercury injected through the afferent vessels into the glands of these animals, flowed out through the veins, as well as by the efferent vessels, he tied in some horses just killed, and in which the lacteals were still full of chyle, the arterial ramifications and the small venous trunks of several glands of the mesentery at some distance from this organ, having previously emptied them by pressure as completely as possible of blood. He then replaced the parts in the abdominal cavity, which was still warm, where they continued their peristaltic movement

like the other parts of the intestinal canal; and subsequently the fold of intestine from the abdomen, he found in the venous trunks of several of the glands which he had surrounded with ligatures, a mixture resembling more chyle than blood, and which, in his opinion, consisted of the little blood remaining in them, and chyle which had been poured into them by the lymphatic ramifications. The horse is particularly suited for these experiments, because among the scattered glands in a large mesentery without fat, there are some, the blood-vessels of which may be easily tied in the manner pointed out. As the glands were not injured in these experiments, and the progressive movement of the chyle through these organs was not interrupted, the appearance of this fluid in the veins of these organs cannot be attributed to a rupture in the glands, but must with greater reason be considered as a necessary consequence of a communication between these vessels, and of the activity of the lymphatics which continues, as is known, some time after the cessation of the peristaltic action, and even some time after death.

As connected with these observations, Professor F. alludes to the circumstance, that in horses in which the absorption of chyle has commenced, following recent digestion, blood drawn from the trunk of the vena porta has always milky striæ, whilst the blood of the veins on this side of the mesenteric glands does not present this mixture. To be certain of this fact, Professor F. applied on this side of these glands, in animals recently killed, ligatures around the vessels and a part of the intestines, so that the blood could not retrograde in the branches, and then collected the blood beyond and within the ligatures; the chyle was perceptible only beyond the mesenteric glands. This fact has also been observed by Tiedemann and Gmelin.

After all, however, it is only by induction that Professor F. has shown the existence of numerous anastomoses between the lymphatics and veins in man and the mammifera; but he has been fortunate enough to meet with in birds the proof required by Sæmmering. He has discovered in several birds of prey, small absorbent trunks, emptying into veins at a great distance from the clavicular regions, as at the coccygis and anal region, and where their union is clearly visible.

From these experiments, Professor F. infers in opposition to the previously entertained doctrine, that the communication between the lymphatic and venous systems, is not restricted to the large trunks in the clavicular regions, but that it comprises also the anastomoses of the most slender radicles in different parts of the body; and in harmony with these arrangements, we find that the thoracic ducts are small relatively to the large mass of lymphatics before their entrance into the absorbent glands.

This disposition our author points out as also in harmony with the well-known physiological experiment, that the injection into the veins of the mildest substances, as the blood of another individual of the same species, produces the most injurious effects in the whole system, and often even causes death; whilst this same operation is entirely free from danger when the injection is slowly made.

“As it is not improbable,” says our author, “that the introduction of a large quantity of chyle and lymph, when these fluids are not elaborated to a greater

degree than we find them in the thoracic duct, would produce similar effects to those occasioned by other substances, we admire in this frequent communication of the lymphatics and veins, a wise arrangement of nature, by which it prevents those dangers by gradually mixing these fluids with the blood, through the intervention of the assimilating glands. Their mixture with the blood is farther promoted by their passage from the most delicate venous ramifications into insensibly larger branches."

Such is a summary of the facts furnished by the researches of Professor Fohmann; the remainder of his memoir is devoted to the consideration of the recent labours of anatomists and physiologists, which are confirmatory of his observations, and to a very severe, and we suspect just criticism, of the pretended discoveries of Lippi. We shall not follow our author through this part of his work, but there are a few points which ought not to be passed over unnoticed.

As confirmatory of the observations of Professor F. it may be well to state, that his experiments on man, as well as most of those on animals, have been repeated by M. Alexander Lauth, of Strasburg, with results perfectly identical with those of our author.

It is well also to state, that whilst Professor F. is in accordance with Meckel, (grandfather,) and Abernethy, as regards a communication existing between the veins and lymphatics in the glands, he is entirely opposed to them, as to the *mode* in which these communications are established.

Abernethy and Meckel, (grandfather,) state that there arise in the parietes of the glands, absorbent vessels and veins with open orifices; an assertion which Professor F. considers as destitute of foundation.

"Communications of lymphatics with veins cannot take place," says our author, "in any other manner than that which is observed to exist between the large lymphatic trunks and the subclavian veins; that is, that a lymphatic unites itself to a vein, and is so inserted into it, that the two vessels form but a single one; the blood-vessel alone continues its course, and conveys to the heart, besides the blood yielded to it by the arteries, the fluid which the lymphatic has poured into it. Thus, as we have already said, and as M. Lauth has justly remarked, a vessel arising independently of the arteries, and in which consequently the blood of the arteries cannot flow, and which unites itself in its course to veins, cannot be considered as a venous radicle, but must be looked upon as a lymphatic.

"No one has yet demonstrated the orifices of the fine ramifications or radicles of vessels. My experiments show that these vessels have no such terminations. The lymphatics as well as the blood-vessels, form at their ultimate ramifications only a net-work and plexuses, so that whatever substances enter into or pass out of the vascular system, must pass through their parietes."

We cannot conclude this analysis of the labours of our author without strongly recommending the memoir to the attention of our readers. The experiments appear to have been performed with perfect fairness, and their results to be faithfully related. Some of the deductions of Professor F. may be questioned, as for instance the non-absorbent power of the veins, but we believe implicit faith may be reposed in the correctness of what he states that he has observed.

XXV. *The Transactions of the Provincial Medical and Surgical Association*, Vols. I. and II. Sherwood, Gilbert, and Piper, London; and Deighton, Worcester, 1833-4. pp. 444 and 546.

These volumes contain much matter of interest. The Society from which they emanated, was instituted in July, 1832; principally for the promotion of the following objects:—1st. The collection of useful information, whether speculative or practical, through original essays or reports of Provincial Hospitals, Infirmaries, or Dispensaries, or of private practice. 2d. The increase of knowledge of the medical topography of England, through statistical, meteorological, geological, and botanical inquiries. 3d. The investigation of the modifications of endemic and epidemic diseases in different situations, and at various periods, so as to trace, so far as the present imperfect state of the art will permit, their connexions with peculiarities of soil or climate, or with the localities, habits, and occupations of the people. 4th. The advancement of medico-legal science, through succinct reports, of whatever cases may occur in provincial courts of judicature. 5th. The maintenance of the honour and respectability of the profession generally in the provinces, by promoting friendly intercourse and free communication of its members, and by establishing among them the harmony and good feeling which ought ever to characterize a liberal profession.

Among the means of carrying into effect these objects, are the holding of an annual meeting of the members at some one of the provincial towns; changing the place of meeting each year; the annual appointment of a member to give a history of medicine during the past year, or an oration connected with medical science; the appointment of a certain number of members each year, to open a communication with eminent medical practitioners in each country with which England has literary communication, and to collect information as to discoveries or questions in agitation, new works appearing, and experiments in progress in the respective countries; and the publication of Transactions.

That the Association is successfully accomplishing the objects for which it was instituted, their Transactions bear sufficient evidence. The two volumes before us, contain an able address, delivered by Dr. Hastings, at the first meeting of the association; and the first anniversary an address by Dr. Barlow, presenting an interesting review of the medical occurrences during the preceding year.

In the department of medical topography, we have Sketches of the Medical Topography of the Hundred of Penwith by Dr. J. Forbes; of Bristol by Dr. Carrick, and of Stourport, Worcester, and its immediate neighbourhood by Mr. Watson.

The *Reports* are from the Birmingham Eye Infirmary, by Dr. Middlemore; the Birmingham Infirmary, and on the state of disease in the city of Worcester.

In medical jurisprudence there is a Case of Poisoning by Cantharides, with a report of the Inquest before the Coroner, by Dr. Hastings; and an account of some Experiments to ascertain the exact Differences between the Changes produced in the Lungs of Still-born Children by their Artificial Inflation, and those produced in the Lungs of New-born Children by Natural Respiration, by E. A. Jennings, Esq.

The articles, however, of most general interest, are the essays and cases, among which we must particularize as especially valuable, Dr. Bardsley's Additional Facts and Observations on the Efficacy of Strychnia in some Forms of Paralysis, Dr. Green's Observations on the Treatment of Syphilis without Mercury, Dr. Barlow Remarks on the Objects and Modes of Medical Investigation, and Mr. James's Observations on the Value of the Different Signs which Distinguish the Sac in Strangulated Hernia.

Dr. Bardsley's essay on strychnia, is devoted to the consideration of the value of strychnia in some forms of paralysis, as established by his more extended experience with this alkali, and by the testimony of other practitioners. Dr. B.'s farther experience with strychnia leads him to repeat, that it is such cases of paralysis as seem to arise from diminished nervous excitement, that this remedy is particularly indicated; and generally speaking, that it is likely to prove more serviceable in paraplegia, unconnected with spinal disease, than in hemiplegia, though he feels confident that it will not unfrequently be found an important remedial agent even in hemiplegic paralysis, when the cerebral mischief is not very extensive, and the nerves are still capable of being acted upon by appropriate excitants. He farther asserts, on the authority of facts occurring within the sphere of his own observation and that of others, that strychnia has proved curative in cases of palsy of long standing, after the complete failure of the discipline ordinarily adopted in these attacks. Various cases published by others, or communicated especially him, are adduced in support of these views.

Dr. B. does not accord with Dr. A. T. Thomson, Paris, Christison and Orfila, as to the strychnia possessing the singular property of expending through the medium of the circulation its influence on the spinal marrow, without involving the functions of the brain, or uncombined with any injury of that organ. And he cites an interesting case, communicated to him by Dr. Booth, of Manchester, which affords an illustration of the absolute influence of strychnia on the brain, as well as on the spinal marrow; also some experiments on dogs, by the same gentleman, confirmatory of this fact. Dr. Root's experience also supports this view. He has known, he says, many patients whilst taking strychnia, to complain of pain in the head, vertigo, and dimness of sight, and sometimes even to such an extent that they have fallen down in a state of insensibility. These observations are important, as showing that a state of cerebral disorganization or congestion, is unfavourable to the employment of strychnia in those forms of palsy which are connected with morbid conditions of that organ, and that in such cases, notwithstanding the assertion of Dr. A. T. Thomson, as to its safety, its administration should be feared.

In the internal administration of strychnia, Dr. B. has mostly commenced with one-sixth of a grain twice daily, and this proportion has been gradually increased to half a grain or a grain at the same intervals; but half a grain of the alkali, taken three times in the day, has generally produced sufficiently energetic effects upon the system. In the external use of the alkali, he has been in the habit of directing one-fourth of a grain to be sprinkled upon the blistered surface, night and morning, and the quantity has been increased to half a grain, a grain, a grain and a half, and two grains, applied twice in the day. Three tables are given, exhibiting the ages, duration of complaint, disease and result of twenty cases of hemiplegia, twelve cases of paraplegia, and eight cases

of palsy of the wrists from lead, treated by Dr. Bardsley in the Manchester Royal Infirmary, since the year 1830.

Of the twenty cases of hemiplegia, eleven were males, and nine females. Their ages varied from twenty-five years to sixty-one years, and the duration of the complaint from one month to three years. Of the twenty cases, seven were cured, five relieved, three were slightly benefited, and five received no relief. The cures were principally in the cases of short duration, nevertheless one case of a year and a half's continuance was successfully treated.

Of the twelve cases of paraplegia, eight were males, and four females. Their ages varied from thirteen years to sixty years; the duration of complaint from six months to four years. Of the twelve, four were cured, five relieved, and three received no benefit.

Of the eight cases of paralysis of wrists from lead, all males, their ages varying from twenty-nine to fifty-four years, and the duration of complaint from three weeks to three months, five were cured, and three relieved.

Notwithstanding the immense mass of evidence which has been laid before the profession demonstrative of the fact, that the primary and secondary symptoms of syphilis can be cured without danger, and that any dread of danger, any apprehension of deplorable results from the venereal virus remaining in the constitution, if this remedy be not used, is perfectly chimerical; some physicians, though admitting the possibility of curing the disease without mercury, still consider it a specific, and that the disease is not safely cured without it. If there be any among our readers who concur in these statements, we earnestly solicit them to examine the facts collected by Dr. Green, from his own experience, and if their minds are not too far warped by prejudice, they will, we think, assent to the justice of his inferences—

“That every form and stage of venereal disease, (except iritis,) can be completely and safely cured without mercury; that most cases of the disease are better treated without mercury than with it; that in some cases, mercury not only fails altogether to cure, but aggravates the disease, and therefore, is not a specific; and that what have been considered as some of the worst secondary symptoms of syphilis, result from mercury itself, from the very means used to cure the disease.”

As to those who still maintain that syphilis cannot be cured by any other than the mercurial treatment, and that the constitution remains contaminated by the venereal poison, unless mercury be used to eradicate it, there would be at little use in attempting to remove their mental blindness, as to endeavour to convey to a blind man an idea of colours.

Dr. Green, after giving a sketch of the principal facts previously collected relative to the non-mercurial treatment of syphilis, presents a summary of one hundred cases of the disease treated by himself, without a particle of mercury used internally or externally. In the selection of these cases, he says that two objects have been kept in view; namely, that the primary sore should, in some degree, possess the characters of the Hunterian chancre, “a circular, depressed, and sloughy sore, with an indurated base,” and that he preferred taking notes of those cases where patients resided in Bristol, that he might have an opportunity of watching the consequences of the treatment, to ascertain if any symptoms of a contaminated constitution should result from syphilis, cured without its supposed specific.

"In these cases, I have remarked," says Mr. G. "not a particle of mercury was used, either generally or locally. The primary sores were treated with sedative and astringent lotions, or simple ointment, as the one or other seemed best to agree with them; local applications, containing mercury, were not used, as any benefit obtained from them might have been attributed to its specific effects. All the sores thus treated possessed more or less resemblance to the true syphilitic chancre, as described by Mr. Hunter. From a fortnight to a month was the time in which they were generally healed; some cases lasted longer, but this was about the average period required for their cure. One case of chancre resisted all applications for four months; every thing in the slightest degree stimulating or astringent, disagreed with the sore; the only thing which suited it was plain water dressing.* Finding all the remedies he had used of no avail, I advised this gentleman to try change of air; he went to the sea side, and in three weeks the sore was healed. If this obstinate case of chancre had occurred in a person of a different constitution, I should, perhaps, have tried mercury; but he was of an irritable and strumous habit, and the sore was of a still more irritable character; I, therefore determined not to use it. In some of the above cases, the local inflammation, accompanying the sore, ran so high, as to require blood-letting, local or general; in some others, thickening and induration remained for some time after the chancres were healed, but this subsided without any thing being done for it. I may here remark, that these sores took a longer time to heal than superficial ulcers and excoriations; sores of the latter description generally healed within a week or fortnight. We sometimes find even these ulcerations exceedingly tedious and unyielding; but, when this occurs, it most generally arises from something wrong in the general health, from disorder of the digestive functions, or from stricture in the urethra; of course we must remove the cause before the disease will yield. It sometimes happens that the slightest form of excoriation, a mere abrasion of the cuticle, will, after a while degenerate into a sore, possessing all the characters of a true chancre; this condition is very often caused by stimulating and improper treatment; we can, by artificial means, produce the same kind of sore. Of 100 cases of primary venereal sores thus treated, buboes supervened in sixteen of them; of these, six only suppurated. The buboes which did not suppurate, were removed, on an average, in about six weeks; in two cases, however, a chronic enlargement of the inguinal glands remained for a longer period, one four and the other seven months; but both of these patients were of decidedly scrofulous habits. The buboes which did suppurate, were healed within two months from their appearance, except one, which remained open four or five months; this patient was also of a scrofulous constitution; ultimately, the whole sixteen cases of bubo were cured. Constitutional affections, of one kind or another, followed in nine cases; these secondary symptoms were cutaneous eruptions, sore throat, pains in the limbs and periostitis. The affection of the skin assumed varied forms; it was papular in three cases, pustular in two, vesicular in one, vesicular and scaly in two, and in the last it was a mixed form of eruption, papular in the beginning, followed by a general redness, and ending in a scaly condition of the surface. These eruptions, at their commencement, were generally accompanied by pains in the limbs, and more or less of febrile action. In some the cutaneous affection was so slight as hardly to deserve the name of disease; and was only alluded to by the patient in a casual manner; two of these cases were papular, a few pimples scattered over the surface of the limbs and trunk; and one was vesicular, resembling a very mild case of varicella. One case of papular eruption was a

* Water dressing is a local application to wounds and ulcers recommended by Dr. Macartney, the Professor of Anatomy and Surgery in the University of Dublin; it is merely plain water applied under oiled silk, and will be found to agree with irritable sores which will bear nothing else. Dr. Macartney has long entertained and taught notions peculiar to himself, on the nature and treatment of inflammation, which, it is to be regretted, this accomplished teacher has not yet published to the profession.

well-marked specimen of the '*Lichen simplex*' of Dr. Bateman; it was attended with some slight febrile feeling at its first appearance; it lasted about three weeks, and then faded away. One of the cases of pustular eruption was also strongly marked, it closely resembled distinct small-pox; this resemblance has been noticed by Dr. Hennen. In this instance, I believe no person could have distinguished the nature of the disease by the skin alone, its history and duration could alone decide the question. The eruption appeared on the trunk, face, scalp, and extremities of this patient; one crop of pustules was succeeded by another; the disease lasted, altogether, three months, was accompanied with a good deal of fever, and pains in the head and limbs; within four months the eruption was removed, and the patient completely cured. This pustular form of eruption I have generally seen to occur in persons of strong constitution, and such was the case in this instance. The two cases of vesicular and scaly eruptions occurred in persons of delicate health, and evidently having a tendency to scrofula; they were the most obstinate cutaneous affections I had to contend with, one lasted between three and four months, and the other nearly seven. The eruption first appeared in the form of vesicles, with an inflamed base; it continued in this state about three weeks, when the vesicles dried, and it appeared that the disease was about to pass off; but the inflamed base now began to spread, and what seemed to be the scab left by the vesicle, extended over the surface until it assumed a regular scaly form, that of syphilitic lepra. These cases were obstinate, and it may be said, imperatively called for the use of mercury, but I determined not to employ it. Both cases occurred in persons of a strumous habit, and the eruption was of a character which I have seen, more than once, degenerate into phagedenic ulcerations of the skin under the use of mercury; both however terminated well. The mixed form of eruption I have alluded to, passed through its stages mildly, and was gone in five weeks.

"The next constitutional affection I have to mention was sore throat; this symptom occurred in four cases, in three of them conjoined with cutaneous eruptions. This affection of the throat was the same in all cases, and presented some characters which, it appears to me, are peculiar to syphilitic disease, though some authors think this ulceration does not belong to syphilis. The tonsils are, at first, enlarged; there is a superficial ulceration extending over these glands, and passing back to the pharynx, and anteriorly extending over the palatine arches: the mucous membrane looks red and granulated; it presents the appearance which granular conjunctiva does on the eyelids. After a short time, a week or more, the inflamed and ulcerated surface becomes covered with a thin layer of coagulable lymph, which adheres to the part; the voice is rough, the throat feels sore, and is painful during the act of deglutition. In some instances, patches of this kind of ulceration extend to the mouth, giving an aphthous appearance to the part. As this is the form of ulceration which I have seen in most cases of syphilis where mercury had not been given, I am led to consider it as the true syphilitic ulcer of the throat. Mr. Rose mentioned that an ulceration of this kind occurred in some of his cases treated without mercury; in one, he remarks, the* 'tonsils looked as if covered with a coat of ill-organized lymph;' in another case he observes, 'the ulcers had irregular margins, and both tonsils had an appearance as if covered with a thin coat of lymph.' This disease of the throat has the peculiar characters above mentioned, and is, therefore, quite a distinct affection from the sloughy excavated ulcer of the tonsil, which has usually been considered the venereal sore throat. Some writers, who advocate the mercurial treatment of syphilis, admit, however, that the foul excavated ulcer of the tonsil, does, occasionally, arise from mercurial irritation; that there is a mercurial ulcer of the tonsil not to be distinguished from the venereal one. Most practical men, I believe, now admit this fact, and hence mercury is

* Med. Chir. Transactions, vol. viii. p. 413.

not so generally resorted to for this form of syphilitic disease; where, however the contrary opinion exists, and mercury be pushed into the system; extensive destruction of the soft parts, and caries of the palate bones, are frequently the results; and, in too many instances, death has relieved the unfortunate sufferer from a state in which he was loathed by others, and loathsome to himself; a miserable poisoned victim to erroneous doctrines. The superficial ulcer I have described, sometimes, when placed under the action of mercury, becomes changed into the excavated ulcer, and goes on progressively extending its ravages, until the mercurial action be arrested. In another part of this paper, I shall mention a very strong instance of this fact, which occurred under rather unusual circumstances. The four cases of sore throat I have alluded to, were entirely removed; the ulceration never went beneath the surface.

"The next and last form of secondary syphilis, which appeared in these cases, was periostitis; it occurred in two cases, in one distinctly, and in the other faintly marked. In one of these, the bones of the head were affected, there was pain, swelling, and tenderness, and the symptoms were aggravated on getting warm in bed; the complaint was obstinate, but at length yielded to counter-irritation, kept up by tartar emetic pustules. The other case was a mild one, it was situated principally in the shaft of the tibia; it did not give much inconvenience, and passed off without any treatment."

The cases just alluded to, have been treated within the last seven years; most of them before the last three years; as latterly, Dr. G. has not, he states, adopted such a rigorous anti-mercurial treatment; he has used local mercurial applications, and where mercury as a purgative or an alterative was likely to improve the general health, he had resorted to it.

"To make this history," he remarks, "a fair and impartial one, it is right that I should mention what unfavourable symptoms, if any, followed this treatment. In one case of tedious cutaneous eruption, the chain of lymphatic glands of the neck became swollen, and they have remained enlarged since. In another case of obstinate scaly and vesicular eruption, the skin remained discoloured, in patches, for nearly twelve months. With these exceptions, not one unfavourable symptom has resulted from the treatment; most of the constitutional affections occurred some years ago, and in persons whom I am in the habit of seeing constantly; and in not one of them has any thing whatever occurred to show a contaminated constitution.

"It affords me pleasure to feel, that not one of my patients suffered any ill effects from withholding mercury. In one case, that of tedious pustular eruption, I thought of giving mercury to try to expedite the cure, as I should do whether this eruption were syphilitic or not; this gentleman was of strong mind, and I made him understand the position in which the question, as to the use of mercury, stood, leaving it to himself to decide. I told him he would get well without mercury; but that his complaint might be tedious; and possibly that the use of this remedy might hasten a cure. I told him, also, of the prejudicial effects which sometimes followed the employment of mercury; he decided not to take it; the termination of the case justified the prognosis; he was completely cured, and has been in good health since the period of his illness, now four years.

"The two cases of vesicular and scaly eruption I have mentioned, occurred in persons of decidedly strumous habits, where, above all others, mercury frequently does mischief; I resolved, therefore, not to employ it, and both cases, ultimately, did well without it.

"While all the facts I have now mentioned prove that syphilis can be cured without mercury, I do not, for a moment, contend that its use should be abandoned altogether in the treatment of venereal complaints. Mercury should be given in these complaints, with the same intention, as if precisely similar symptoms occurred from any other cause. The well-known power of mercury, when

used cautiously and moderately, to improve the general health, to remove chronic inflammations, and diseases of an indolent kind, indicates its use, in some few cases, for the symptoms of syphilis, as if they occurred from any other disease, without reference to any *specific character*. While I admit its use in some cases of syphilis, not for a moment *as a specific*, but on the general principles above stated, I contend that the cases requiring it are but few; a very large proportion of venereal diseases can be as well, if not better, cured without mercury, and *certainly more safely*, because the risk is not incurred of producing the truly melancholy results, which, in some constitutions, follow the treatment of syphilis with this mineral. I think its use, in primary symptoms, should be given up altogether, at least, until there appears some indication for its employment. It cannot now be maintained that a chancre is cured one day sooner where mercury is given, than where it is not; as far as any comparison of evidence goes, it would appear, that these sores are sooner cured, where mercury is not given. If this be true, we gain nothing by using this remedy, and incur the risk of inflicting a severe injury on the patient, as every practical surgeon knows well, that chancres do, sometimes assume a gangrenous and phagedenic character under the mercurial irritation, occasionally ending in the loss of a portion, or the whole of the penis, before the destructive processes can be arrested. The only intention with which mercury can be given, in this stage of the disease, is to prevent the introduction of the venereal poison into the system. But, has mercury this preventive influence? Unfortunately, the history of the venereal disease, under the most full and efficient mercurial treatment, proves that it has no such power. It is too well-known that if mercury succeeds, once, in preventing secondary symptoms, it fails, altogether, in too many instances, to allow us to place reliance on it as a preventive of constitutional symptoms. It is certain that secondary symptoms occur whether mercury be given or not; but whether they follow more frequently in the one case or the other, is, as yet, entirely undecided.

"As far as the army reports go, it would appear that secondary symptoms followed more frequently where mercury had not been used; but it must be remembered, that it was considered that the secondary symptoms following the use of mercury, were more severe and intractable than when it had not been used; no argument can hence be drawn in favour of mercury."

"Secondary symptoms supervening where mercury has not been used, are, in most instances mild, and generally yield in a short time; but where they do not," mercury, says Dr. G. "cautiously given, may be attended with benefit; if, however, when the system becomes affected from the remedy, the constitutional symptoms are aggravated, we ought immediately to stop its use, and treat the disease by other remedies; should we, however, persist in the mercurial course, we incur the risk of totally changing the character of the disease, from a *mild chronic* to a *severe and intractable one*."

We regret that our limits forbid our noticing here some of the other interesting papers and cases in these volumes, but we shall give abstracts of the most important of them in the periscope of the present or future numbers.

XXVI. *The Cyclopædia of Anatomy and Physiology*. Edited by ROBERT B. TODD, M. D. Lecturer on Anatomy and Physiology at the Westminster School of Medicine, &c. &c.

We have before us the first No. of this work, which is now in the course of publication. It is to appear in parts—

"Consisting of a series of dissertations, under the headings of the more important subjects of human anatomy, general, surgical, and morbid; of phy-

siology, of comparative anatomy, and of animal chemistry, and in order to unite the advantages of a dictionary with the proposed form of the work, a very copious index will be added, containing all the terms used in the sciences with appropriate references."

Some of the most eminent men of Paris, as well as of Great Britain, are enrolled among the contributors; and from the execution of the No. before us, the work promises to be an exceedingly useful addition to our literature.

The illustrations, which are numerous, are remarkably well executed. We have reason, however, we think, to complain that the labours of our countrymen have been so far entirely overlooked. Thus, in the art. Absorption, not even allusion is made to the experiments of Rousscau, Klapp, Mussey, Coxe, Stuart, Lawrence and Coates, Luzenberg, &c. Whether this arises from ignorance or design, it is equally inexcusable.

XXVII. *A Treatise on Pulmonary Consumption; comprehending an Inquiry into the Causes, Nature, Prevention, and Treatment of Tuberculous and Scrofulous Diseases in general.* By JAMES CLARK, M. D., F. R. S. Consulting Physician to their Majesties the King and Queen of the Belgians, &c. &c. Philadelphia, p. 296, 1835.

The greater part of this treatise first appeared in the *Cyclopedia of Practical Medicine*, and has been elaborately noticed in our preceding No. (p. 303, et seq.) In publishing it as a separate work, the author has carefully revised the whole, rewritten much the greater part of it, and made considerable and interesting additions to almost every chapter, more especially to those on the causes and prevention. Having so recently devoted a large space to the analysis of the original, it is only necessary to repeat the favourable opinion of it already expressed, and to state that in its present form, its value has been much increased. We urgently recommend it to the profession as one of the most important publications on the subject of which it treats, that has yet appeared; it should be in the hands of every student, and on the table of every practitioner.

XXVIII. *Manual of Phrenology; being an Analytical Summary of the System of Dr. Gall, on the Faculties of Man and the Functions of the Brain.* Translated from the fourth French edition. Philadelphia, Carey, Lea & Blanchard, 1835.

The original of this work has been already noticed, (Vol. VI. p. 193,) and it is therefore only necessary for us to state, that the translation bears marks of having been carefully made, and to refer to our review of the original publication.

QUARTERLY PERISCOPE.

FOREIGN INTELLIGENCE.

ANATOMY.

1. *Newly discovered arrangement of the Arteries in the Erectile Tissue of the Penis.*
 —The second number for 1835, of Müller's (late Meckel's) *Archiv. für Anatomie und Physiologie*, contains the account of an interesting discovery recently made by the editor, Professor J. MÜLLER of Berlin, relating to the disposition of the small arteries of the penis, which tends to explain the structure of the erectile tissue of that organ,—a subject which, notwithstanding the investigations of Cuvier, Tiedemann, Moreschi, and Panizza, was still involved in much obscurity. These observations point out a fact entirely new in the structure of the arteries of the erectile texture, and promise to throw some light on the nature of the erectile condition of the blood-vessels.

Most of those who have investigated the structure of the erectile textures of the penis by injections, have contented themselves with filling the veins of the organ, and thus, although the structure of the venous caverns of the *corpora cavernosa*, and the dilated veins of the *corpus spongiosum urethræ* was sufficiently well understood, yet very little was known respecting the mode of termination of the smaller arteries. It has been generally believed that the same small capillary arteries which nourish the penis carry the blood into capillary veins, that the blood passes from these into the dilated venous branches or sinuses, and that the state of erection depends on the retardation of the flow of blood in these venous spaces.

Professor Müller has by a careful injection of the arteries of the penis, pointed out, besides the capillary branches which nourish the penis and transmit the blood into the capillary vessels and dilated veins, a number of very remarkable appendices connected with the smaller arteries, both in the *corpora cavernosa penis* and *corpus spongiosum urethræ*, which, from several circumstances, it is very probable, are the vessels more immediately concerned in maintaining an increased quantity of blood in the penis during erection.

The easiest way of rendering these two sets of arterial branches apparent is to inject the principal artery of the penis, before its subdivision, with size and vermilion of moderate consistence, and then making a longitudinal section of one of the *corpora cavernosa*, to wash away any part of the injected mass which may have passed into the venous spaces. The ramifications of the nutrient arteries will then be easily seen upon the inner sides of the venous spaces, the arteries becoming smaller and smaller, until at last they pass into the minute

capillary net-work, the branches of which cannot be seen with the naked eye. Besides these nutrient ramified arteries, there will also be seen upon a careful examination another set of arterial branches of a different size, form and disposition, which are given off nearly at right angles from both the larger and smaller trunks of arteries. These arterial processes are about one-hundredth of an inch in diameter, and one-twelfth long, and are quite easily seen with the naked eye. They project into the cavities of the spongy substance, and terminate either bluntly or by dilated extremities, without undergoing any ramification. These short arterial processes are turned round at their extremities into a semi-circle or more, and present a contorted appearance, which circumstance has suggested to Professor Müller the name of *Helicine* arteries, which he has applied to them.

The *helicine* arteries of the penis are more easily seen in man than in any other animal which Professor Müller has examined. He has found them in all the animals in which he has sought for them; they are to be seen at the posterior part only of the penis in the stallion, but in the dog exist throughout the whole organ.

In man, the *helicine* twigs of the penal arteries sometimes come off singly, and at other times they form tufts or bunches, consisting of from three to ten branches, and having in general a very short common stem. The swelling at the extremity, when it occurs, is gradual, and is greatest a little way from the end. The *helicine* branches given off from large arteries are not of a greater size than those coming from smaller ones, and even the smallest capillary arteries of the *profunda penis*, which can be seen with the help of a glass only, give off *helicine* twigs of a much greater size than themselves.

Each *helicine* branch projecting into a venous cavern is covered by a thin membrane, which Professor Müller regards as the inner coat of the dilated vein, and when there is a tuft of *helicine* twigs, the whole tuft is covered with one envelope of a gauze-like membrane. This covering is considerably thicker on the *helicine* arteries in the posterior part of the *corpus spongiosum urethræ* than in the *corpus cavernosum*, but it seems probable that this is in some measure connected with the state of repletion of the arteries, for when the injection has run very well it becomes difficult to distinguish the external covering.

Professor Müller states that he could not discover any apertures either in the sides or in the ends of the *helicine* arteries, but he seems to regard it as probable that minute apertures do exist, which may be of a nature to allow the passage of blood in some states and not in others.

The *helicine* arteries are not, as some might be inclined to suppose, loops of vessel which have been incompletely filled, and which, after making a coil, pass into venous spaces, as E. H. Weber discovered to be the case with the arteries of the maternal portion of the placenta; they are merely projecting branches from the arterial trunks containing blood.

The *helicine* arteries are more numerous towards the root than near the point of the penis. They exist in the *corpus spongiosum urethræ*, especially towards its bulb, but they are not so easily seen there as in the *corpora cavernosa*. They have not yet been observed in the glans. Their structure is nearly the same in all the animals in which they have been observed: those of the ape bear the nearest resemblance to those of man, and in most animals they are less obvious than in the human subject. In the horse and dog they give off small nutrient twigs from their sides, which render them more difficult to be seen in these animals than in man.

Professor Müller conceives these *helicine* or tendril-like arteries to have an intimate connexion with the process of erection, and there is every probability that this is the case; but experiments and observations are still wanting to show in what manner these arterial branches are affected in the erected and non-erected condition of the texture in which they exist.

We recommend to the attention of our readers this discovery of Professor

Müller's, whose researches have already done a great deal for the advancement of physiological anatomy. The memoir is accompanied with a well executed engraving, containing numerous representations of the helicine arteries.—*Edinburgh Med. and Surg. Journal*, July, 1835.

2. *Employment of Arsenic for the Preservation of Subjects.*—The following is the method employed by M. Tranchina, of Naples, for the preservation of dead bodies, and which is said to succeed to a miracle.

He injects into the left carotid artery, with a syringe, a solution of two pounds of arsenic, coloured with a little minium or cinnabar, in twenty pints of water, or what is still better, spirits of wine. If there be signs of incipient putrefaction of the intestines, this same liquid must be introduced into the abdominal cavity. By employing the spirits of wine, every part of the body preserves much longer its freshness, and that firmness which is required in anatomical preparations. By this process a body may be preserved, it is said, for more than two months, without emitting any odour or undergoing alteration, and preserving its freshness, flexibility, and natural colour. Afterwards it dries, hardens, and acquires a dull colour, and continues in this state for many years. M. T. has also combined the arsenic with the common material for injection which solidifies on cooling; and he has injected with it the body of an infant which has been perfectly preserved.

The decoration of the order of Francis I. and 3,000 ducats have been bestowed on M. Tranchina, by the King of Naples.—*La Lancette Française*, July 7th, 1835.

PHYSIOLOGY.

3. *Notice of some Experiments on the connexion between the Nervous System, and the Irritability of Muscles in Living Animals.* By Dr. J. REID. With Observations by Dr. ALISON.—Although physiologists are still divided in opinion as to the question whether nerves furnish a condition necessary to the irritation of muscles, (*i. e.* whether every stimulus which excites a muscle to contraction acts on it through the intervention of nervous filaments,) they have now very generally abandoned the once prevalent theory, that the irritability of muscles is derived from the brain or spinal cord, *i. e.* that muscles are continually receiving, through their nerves, from those larger masses of the nervous system, supplies of a certain influence or energy, which enables them to contract; and that some of the statements of Dr. Wilson Philip, in particular, are generally regarded as decisive against this theory.

Dr. Wilson Philip found by experiment, that the irritability of a muscle of which the nerves were entire, was exhausted by applying a stimulus directly to the muscular fibres, (sprinkling salt on them,) even more quickly than that of a muscle of which the nerves had been cut, and where all communication with the supposed source of nervous influence or energy had been cut off; and he states generally that a muscle of voluntary motion, if exhausted by stimulation, will recover its irritability by rest, although all its nerves have been divided.

But in opposition to this statement, and in support of the old theory of nervous influence continually flowing through certain of the nerves into the muscles, it has lately been stated by Mr. J. W. Earle, that when the nerves of the limb of a frog were cut, the skin stripped off, and the muscles irritated by sprinkling salt on their fibres, until they had lost their power of contraction, although they did not lose their power much more quickly than when the nerves were entire, yet they did not regain their power, although left undisturbed for five weeks; while the muscles of the limbs of another frog, similarly

treated, but of which the nerves were left entire, completely recovered their irritability.

It occurred as a fundamental objection to the experiment of Mr. Earle, that in the case where the nerves had been divided, the muscles had become inflamed; being found at the end of the five weeks "softer in their texture than natural, a good deal injected with blood, and with some interstitial deposition of fluid in them;" while in the limb to which the salt had been applied, but of which the nerves were left entire, and where the irritability was recovered, "although the colour of the muscles was rather darker than natural, their texture remained unchanged, and there was no interstitial deposition of fluid in them."

In these circumstances it might evidently be supposed that it was the inflammation and disorganization of the muscles, not the section of the nerves, which prevented the recovery of the irritability in the case where the nerves had been cut; and it became important to have the experiment repeated, with care to avoid such injury of the limb of the animal as should cause inflammation to succeed the section of the nerves.

With this view, Dr. Reid performed a number of experiments on frogs, in which the irritability of the muscles of both hind-legs was exhausted or greatly diminished by galvanism, after the nerves of one leg had been divided and the lower part of the limb rendered perfectly insensible and incapable of voluntary motion, (but without stripping off the skin,) while the nerves of the other had been left entire. The state of the muscles of both limbs was examined after some days. The results of these experiments were not uniform; but in several, where every attention to accuracy seemed to have been paid, the irritability of the muscles in the palsied limbs appeared to be *restored as perfectly as in the others*; contractions being excited in them, in several instances, by the galvanism from four or even two plates; whereas, they had formerly been irritated until they were no longer excitable by that from fourteen plates.

That the muscles which thus recovered their irritability had lost all nervous connexion with the brain or spinal cord was proved, not only by their obvious insensibility, but by afterwards cutting off the heads of the animals and forcing a probe along the spinal canal, which excited forcible contractions in all parts excepting the palsied limbs.

Dr. Alison's paper contained the details of several of these experiments; and he stated in conclusion, that a *positive* result in such an inquiry must always outweigh a *negative* one, (particularly where a source of fallacy attending the latter can be pointed out,) these experiments appear fully to justify the assertion of Dr. Wilson Philip, that a muscle of voluntary motion may recover its irritability by rest, although all its nerves be divided; and that they afford, perhaps, more direct evidence than any others in support of the doctrine of Haller, now generally admitted in this country, that the property of irritability in muscles is independent of any influence or energy continually flowing from the nervous system, although, like every other endowment of living animals, it is subjected to the controul of causes which act primarily on that part of the living frame.

Dr. Allen Thomson expressed a doubt whether these experiments warranted the conclusion drawn from them, not because he acquiesced in the theory to which they are opposed, nor because he called in question the accuracy of the results described to have been obtained, but because he knew that former experimenters had failed in producing such diminution or exhaustion of the irritability of muscles as had been found by Dr. Reid; and conceived it possible that some of the numerous fallacies to which such experiments are liable, might not have been sufficiently guarded against.*

The accuracy of Dr. Reid's statement as to the great diminution or apparent

* A Committee, of which Dr. Thomson was a member, was appointed for the repetition of the experiments, which has performed the duty assigned to it.

exhaustion of the irritability of the muscles under the influence of the galvanism, and the subsequent recovery of the power, notwithstanding the division of all their nerves, was satisfactorily established. It is to be remarked, however, that in these experiments, as usual in such cases, the limbs to which the galvanism was applied were kept moist by the same saline solution with which the galvanic trough was charged: and Dr. Thomson has observed, that when they are moistened with pure water, the diminution of the irritability under the excitement by galvanism is much less obvious. Hence he was led to suspect that the apparent loss of power in the muscles under that process might depend, not on the circumstance of repeated excitement, but on a degree, however slight, of injury to their texture by the action of the salt. This inquiry he proposes to prosecute farther; but in the mean time it is certain that by the usual process of galvanizing a living muscle moistened by a saline solution, a very great diminution of its irritability may be effected, which may subsequently be regained, notwithstanding the division of all its nerves; and as the fact of its recovery, not the cause of its diminution or exhaustion, is the point on which the inference drawn from these experiments rests, that inference may be held to be sufficiently justified.—*Fourth Report of British Association for the Advancement of Science.*

4. *Notice of some Observations on the vital properties of Arteries leading to inflamed parts.* By Dr. ALISON.—These observations were made with the able assistance of Mr. Dick, veterinary surgeon, on the arteries of the limbs of several horses, condemned on account of injury and inflammation there.

The immediate object of inquiry was, whether the tortuous and strongly pulsating arteries leading to an inflamed part are really endowed with a greater vital power of contraction than sound arteries; and the method taken to ascertain this was to make a comparative examination of the condition of these arteries, and of the corresponding arteries in the opposite sound limbs, immediately on the animals being killed, (by blowing air into their veins;) and again after the lapse of 16 or 24 hours, when it is known that the tonic contraction, which takes place at the time of death, and is the indication of the only vital power which experiments authorize us to ascribe to arteries, has relaxed.

The animals were killed, and the observations made, at different periods varying from twelve hours to twenty days after the commencement of the inflammation, in the five cases of which an account was read. The extent of the inflammation was various. In all the cases, the artery leading to the inflamed part, when laid bare as high as the groin as soon as possible after the death of the animal, was larger in its whole length, *i. e.* had contracted less at the moment of death, than that of the sound limb. In two of the cases, where the inflammation was of long standing, and the coats of the artery appeared to have been effected by it, this vessel at the second examination appeared smaller than the artery of the sound limb, having not only contracted less at the moment of death, but dilated less after death, than the artery in the natural state. In the other cases the artery of the inflamed limb remained larger than the other at the second examination; and it was farther obvious that its elasticity was impaired, for when slit open and smoothed out, it had less power than the sound artery of recovering the cylindrical form.

In all the cases, the artery of the inflamed limb retained after death a considerable quantity of blood, while the other was almost empty; and that this was not owing to inflammatory effusion, preventing the artery of the effected limb from emptying itself at the time of death, was proved, in two of the cases by cutting across the vessel, immediately on the death of the animal, a little above the inflamed part, whereby it had full opportunity to rid itself of its blood, if it had retained the power to do so.

One of these observations was made in the presence of Dr. Yelloly, Dr. Clark, Dr. Fletcher, Mr. Broughton, Mr. Clift, and Mr. Bracy Clark: and it may be added here, that in a subsequent experiment, in which Dr. Alison and

Mr. Dick were assisted by Dr. Fletcher, they obtained farther proof of the loss of elasticity in the artery of an inflamed limb, by finding that after it had been distended by a given weight of mercury, (in the way practised by Poiseville,) it had less power than the corresponding sound artery, to contract on itself and expel its contents when the distending force was withdrawn. But this last experiment was made too long after the death of the animal to justify an inference as to the strictly vital power of the vessel.

Dr. Alison stated, that it seems now generally admitted by microscopical observers, that during by far the greatest part, and during the highest intensity of inflammation, nothing but dilation or relaxation of the *small* vessels of the inflamed part can be perceived. If the present observations shall be confirmed by others, they will show more distinctly than any statements hitherto on record, that the same holds true of the *larger* vessels supplying an inflamed part. Now, there are two changes in the movement of the blood through the vessels of an inflamed part which seem well ascertained by many observations, viz. retarded movement or absolute stagnation, (*stase du sang*,) in many of the small vessels most affected, even during the height of the inflammation; and accelerated movement in the neighbouring vessels, with greatly increased transmission; in a given time, through the whole veins of the part. This last change may, perhaps, be reasonably ascribed to the relaxation of the vessels giving increased effect to the impulse from the heart; but it seems impossible to ascribe likewise to that relaxation of vessels, the former which is just the opposite change in the movement of the blood; and yet no modification of the action of any of the vessels, except simple relaxation, can be detected.

The fair inference from these facts therefore seems to be, that the phenomena of inflammation are truly inexplicable by any changes which occur, during that state, in the contractile power of the vessels containing the blood; and that, instead of seeking for an explanation of these phenomena in the state of *contractions* of any of the solids, we ought rather to look for it in the state of the *attractions* subsisting during the living state among the particles of the blood, and between them and the surrounding solids. And this inference the author thinks might be supported by reference both to other facts in the history of inflammation, and also to many other phenomena of the living body, both in health and disease.—*Ibid*.

5. *Report of Progress made in an Experimental Inquiry regarding the Sensibilities of the Cerebral Nerves, recommended at the last Meeting of the Association.* By MARSHALL HALL and Mr. BROUGHTON.—Some disagreement appears to exist amongst the results of the investigations regarding the sensibilities of the cerebral nerves, which demands farther experimental inquiry. A series of experiments has therefore been instituted at the request of the Committee of the Medical Section, and the establishment of Messrs. Field in Oxford street, London, was selected for the purpose of carrying the inquiry into effect; the horse and the ass, from their large size, being considered as the most favourable subjects for the free exposure of the nerves.

The properties of some of the cerebral nerves being admitted upon other grounds than experimental proof, this investigation was exclusively directed to the facial branches of the fifth pair of nerves, the hard portion of the seventh, the vagus, the spinal accessory, the glosso-pharyngeal, the lingual, and the sympathetic nerves. Upon the properties of the first, second, third, fourth, sixth, and the soft portion of the seventh pairs of nerves no doubt or discrepancy exists.

It has long been known that the properties of the cerebral nerves are various. Thus, one nerve governs the function of motion; another that of some specific sensation, as of light or sound; and these properties are held independently of each other. To understand clearly the properties of nerves, it is also necessary to apply the test of experiment to their *roots*; for branches from two or more roots unite to form one nerve apparently, which may then assume

two distinct properties, that is, the peculiar property of each root. This is exemplified in the origin and distribution of the nerves of the face.

The apparent discrepancies in the results of experiments probably depend much upon the indefinite manner in which certain physiological terms have been employed. Thus, *sensation* has been coupled *with* consciousness in some instances, and in others it has been supposed to exist *without* consciousness. In the present report the term *sensation* implies *consciousness*. It is considered as identical with *feeling*, and when violently excited it becomes *pain*. And this is manifested by *general and instantaneous* efforts or struggles. *These are, therefore, the signs of sensibility.*

Three modes of judgment have appeared as necessary to be kept in view in the present inquiry in reference to the above definition:

1. It was observed that when a nerve of unequivocal sensibility was pricked or pinched, an *immediate and general* struggle followed. The facial branches of the fifth nerve are examples.

2. That when a nerve as unequivocally devoted to motion is pinched, there is an *immediate contraction of the muscles which that nerve supplies, and of no other muscles.*

3. That on pinching the par vagum, neither of the phenomena above noticed occurs; but by continuing the compression for a few moments, an *act of respiration and of deglutition follows, with a tendency to struggle and cough.*

Of these three phenomena the first only is considered as indicating the property of sensation, or the power in the nerve subjected to experiment to transmit sensible impressions.

The movements in the third instance appear to arise from secondary causes, *the mechanical irritation of the nerve not being attended with immediate consciousness.*

1. *Experiments upon the Facial Nerves.*—These nerves govern the actions of the face, and preside over the sensibilities of its different organs and surfaces. The first function is performed by the facial portion of the seventh nerve and a portion of the fifth. The second function is performed by the large portion of the fifth pair of nerves. Thus the fifth nerve possesses two distinct properties of transmission, one voluntary, the other sentient, in consequence of its having two distinct roots. One of these roots, the largest, has a ganglion attached to it, and is exclusively a sentient nerve. The smaller root has no ganglion, is insensible, and governs the motions of those muscles which it supplies. The first fact is easily gained by experiment, but the second is admitted upon other grounds, for the smaller root cannot be experimented upon in the living animal. It is to be observed that the larger root of the fifth nerve is divided into three branches, spread and ramified over the face, and frequently connected in its ramifications with branches of the seventh nerve; so that unless the experimental tests be applied to distinct branches, no certain response can be obtained as to their several properties.

Pricking or pinching the trifacial nerve was attended with instantaneous indications of consciousness; when its branches were divided, all sensibility ceased in the parts which they supply. The *lower* divided ends made no response when bruised, but the upper indicated sensation. The motions of the face, however, still remained unimpaired, until the seventh nerve was divided as near its origin as possible, when the organs which it supplies became permanently motionless. When this nerve was slightly pinched in its entire state, those muscles exclusively which it supplies were seen to be convulsed, without any *general* effort; when the compression was increased, and continued for a few moments, signs of uneasy respiration occurred. Pricking this nerve with a needle and cutting through it produced no struggle whatever, as is the case with the trifacial nerve. When the lower end of the nerve, after division was irritated, no movement followed; but on compressing the upper end, the same signs were exhibited as when the nerve was irritated in its entire state.

2. *Experiments upon the Nervus Vagus.*—In the year 1820, Mr. Broughton

experimented upon this nerve; the results were published in the *Quarterly Journal of Science of the Royal Institution*. It was found to be insensible when slightly pinched, pricked, or divided. The present experimental investigation confirmed this remark. It was also on the former, as well as upon the recent occasion, clearly shown that, when a forcible compression was continued a few moments upon the nervus vagus, a respiratory effort followed, and an act of deglutition, with a cough and a struggle. In the recent investigation it was observable that when the nervus vagus was divided, mechanical irritation applied to the upper end of the divided nerve produced the same signs as when the nerve was entire. Every repeated compression of this nerve, (as was also the case with the seventh,) produced corresponding respiratory struggles; whilst a uniform, uninterrupted compression caused no repetition of the phenomena. An additional argument in support of the opinion that these effects are independent of any sensible property in the nerve itself is furnished by the fact that Dr. Marshall Hall has found precisely similar effects to occur in the turtle after its decapitation, on pricking the lateral spinal nerves, whether of the sentient or motory class.

3. *Experiments upon the Spinal Accessory Nerve*.—This nerve having been pricked without any response, was then slightly pinched and scraped; when the sterno-maxillaris muscle, the levator humeri, and other muscles of the neck exclusively were seen to contract at each application of this mechanical irritation. But when the forceps was applied firmly, and continued a few moments, similar effects were produced as with the vagus and the seventh. The branches of this nerve appeared to be equally destitute of sensibility with the root. The compression of the upper end, after dividing this nerve below its bifurcation, was followed by no effects, unless the pressure was made opposite the giving off of the anterior branch, when the same phenomena occurred as were exhibited in the entire nerve.

4. *Experiments upon the Glosso-Pharyngeal Nerve*.—When this nerve was pricked, scraped, or divided, no response was observed. The muscles of the root of the tongue were most probably set in motion by the compression of this nerve at intervals; but no opportunity occurred of bringing this part of the tongue into view. Neither in its entire nor divided state did any struggle arise from the continued compression of this nerve, which is therefore regarded as one simply of muscular motion.

5. *Experiments upon the Ninth Nerve*.—The sensible surface of the tongue is supplied by the ganglionic portion of the fifth nerve, whilst the muscles of its fore part are furnished with branches from the ninth nerve. No sign of sensation was evinced by mechanically irritating the trunk of this nerve, and its division was unattended with any sign of feeling or pain. But upon pinching it slightly at intervals, those muscles which it supplies, on the same side of the tongue, were convulsed. If the nerve was forcibly compressed, a slight gulp followed. When the nerve was divided, pinching the upper end of it was not followed by any muscular contractions.

6. *Experiments upon the Sympathetic Nerve*.—No experiments upon this nerve have hitherto exhibited any signs of sensation or muscular motion of any kind whatever. Its division is never followed by any visible effect.

Remarks.—By these observations some researches of other experimenters stand confirmed, whilst others are contradicted; the necessary consequence of discrepancies, often arising from the different modes of applying certain terms. Although the mysterious properties and actions of the nerves may never be completely unravelled, yet much has been effected by the successive and combined efforts of physiologists of different ages and countries.

The present investigation leads to the assumption, that one only of those nerves which derive their roots from the brain itself is, according to the definition laid down, a nerve of sensation. This is the larger and ganglionic division of the fifth nerve, whereby animals are enabled to examine by touch and to feel.

With regard to the other nerves subjected to experiment in this inquiry, none of them appear to possess in themselves any power to excite consciousness or feeling directly. Some of them are simply nerves of motion, and they transmit no other impressions but such as excite local muscular motion, limited to the muscles which they supply. Others, again, seem to possess a property of a different description from either of the two former kinds. One of these, the eighth for example, appears to be so intimately connected with the respiratory function as to be capable of influencing it in a most remarkable degree, without exhibiting any sign of sensation in itself, or of simple and direct muscular contraction.

It is a most remarkable fact, that when a nerve which influences respiration is divided, and the upper division is bruised or compressed for a few seconds, the same effects occur as when the irritation is applied to the entire nerve. This phenomenon affords matter of curious and interesting speculation with regard to the relations which subsist between the nervous and the respiratory functions.

The farther pursuit of this inquiry may lead to some farther development of facts hitherto exposed in some instances to doubt and controversial discussion.

Dr. Hall was necessarily absent at one of the experiments, that on the ninth nerve; but he feels perfectly satisfied with the joint testimony of Mr. Field and Mr. Broughton.—*Ibid.*

6. *Inquiries into the Varieties of Mechanism by which the Blood may be accelerated or retarded in the Arterial and Venous Systems of Mammalia.* By Dr. T. J. AITKIN.—The attention of the Section was particularly directed to four modifications of arterial distribution, as indicated, (1.) by the angle at which a branch comes off from its trunk; (2.) the direction of the vessel; (3.) the subdivision; and (4.) the formation of plexus.

In illustration of the first, or angle of origin, Dr. Aitkin exhibited a preparation of the aorta of the tiger, in which the superior intercostals arose at an acute, the middle at a right, and the lower at an obtuse angle; from which he inferred that the force and velocity of the blood are rendered equal through the whole series. In speaking of the direction of the vessel, he adverted to the tortuous entrance of the internal carotid and vertebral arteries into the skull in the human subject, and showed that it is still more remarkable in the horse, which in feeding requires to have the head for a considerable time in the dependent posture. But the best examples of the tortuous or serpentine course are to be seen in the spermatic arteries of the *Mammalia*. This mechanism, the author contends, adapts the circulation to the various positions in which organs may be placed, and to their states of action and repose. In speaking of the third modification, or the subdivision into numerous long branches, he particularly alluded to the observations of Sir A. Carlisle with respect to the arteries of the sloth, and showed that a similar ramification is found in the hedge-hog, both in the arteries of the panniculus carnosus and of the mesentery. Of the last modification, the plexus, he showed examples in the rete mirabile of Galen in the internal carotid, and of Hovius in the ophthalmic artery, of the *Ruminantia*. He inferred that this structure prevents valvular turgescence, which would otherwise occur during the long period these animals keep their head in the dependent position while browsing. He also showed that a rete mirabile exists in the ophthalmic artery of the seal and goose, and considered it probable that in them it is conducive to the alternate adaptation of the eye to vision in air and water. He described the remarkable plexiform arrangement which exists in the mesenteric arteries and veins of the hog; and instituted a comparison between those vessels in carnivorous and herbivorous *Mammalia*, concluding that these modifications are in conformity with the transmission of blood through the liver, the rapidity of the peristaltic motion, and the power of nutrition.—*Ibid.*

7. *Superfœtation*.—The following example of this phenomenon is recorded by RICHARD DICK, Esq. in the *Jamaica Physical Journal* for April last. A negro woman named Henny Gay, an apprentice on Orange Park Plantation, in the Parish of Saint David, whose reputed husband is a negro, was on the 12th day of December, 1834, delivered of two male children—one a fair mulatto, the other a negro. The twins were both alive on the 25th of February last, and are fine thriving children. Though Mr. Dick has done all in his power by the offer of money and otherwise to get the woman to give a candid account of the circumstances which might have been the cause of this phenomenon, all he can get from her is, that the children were given her *by God*, and that she had nothing to do with any *white* man.

Dr. V. HOLCOMBE of W. Granville, Mass. in a communication to the *Boston Medical and Surgical Journal*, (xiii. 64,) states that a similar occurrence took place in a black family, whom he first knew in 1812 or 13. The twins in this case were females, and eight or ten years old when Dr. H. first saw them. They were known by the name of the black and white twins. From the period first mentioned Dr. H. lost sight of these twins until 1816, when he was more forcibly struck than formerly with the dissimilarity of these children—the one a woolly-headed negress, black as jet, and in these respects resembling both parents, but in the form of the face and head bearing a close resemblance to the father—the other a light olive mulatto, with straight dark, though not black hair, hazel eyes, exhibiting much less of the negro in the general contour of her person than ordinary mulattoes. The mother subsequently confessed that about nine months previous to the birth of these children, she had a connexion with a white man, who he and the mother believed to be the father of the white child. The black child had a close family resemblance to her father. There were several other children in this family, some older and some younger than the twins, all of them very black.

PATHOLOGY.

8. *On Apoplexy*. By WILLIAM STOKES, M. D.—The term apoplexy, as I suppose you all know, is derived from a Greek word, signifying a stroke or blow. It is a term which, in the present state of medicine, has been very frequently abused, or at least employed in very different senses, and hence the many erroneous opinions respecting it. The true meaning of the term expresses an alteration of the phenomena of the life of relation, that is, of the functions of the cerebro-spinal system. In taking a view of the nature of this alteration, we find that the attack generally comes on in a sudden manner, and that the functions of the brain are partially, or completely suspended. You are aware that the manifest phenomena of the life of relation are those which belong to *sensation, muscular motion, and the intellect*, and that the system of the life of relation is composed of the brain, spinal cord, and nerves. Now suppose, for example, that a man gets an attack of apoplexy, we find him paralytic—here is a lesion of the muscular function. We find him insensible to external stimulants, he feels no pain—here is a lesion of sensation. We may find his sight, hearing, taste, smell, and touch are injured. He lies in a state of insensibility, and is unconscious of every thing passing around him—here we have an example of interruption in the performance of the intellectual functions. All these phenomena exhibit the various lesions superinduced by an attack of apoplexy in the functions of those organs which subserve to the life of relation.

I have said that the term apoplexy is frequently abused in modern medicine. From the circumstance of most cases being accompanied by an effusion of blood on the surface, or into the substance of the brain, the term has been also applied to sanguineous effusions into other organs, and we hear every day of pulmonary and hepatic apoplexy; terms implying the extravasation of blood into the substance of the lung or liver. The analogy, however, in such cases will on exami-

nation be found to be coarse, and the application of the term loose and improper. Apoplexy, as a cerebral disease, may occur with or without effusion; in either case the disease, *quoad* the lesion of function, is the same; but to give the name of apoplexy to hæmorrhage into the lungs or liver is improper. The term apoplexy should be used only with reference to the brain, and applied to a particular train of lesions in the functions of the life of relation occurring *with or without an effusion of blood, or even congestion*. When we have effusions of blood into other viscera, we may have them unaccompanied by any apparent lesion in the functions of the organ affected, (a circumstance rarely met with in the case of the brain,) and it would be much better to give some other name to those hæmorrhages into the substance of the liver and lungs, than to designate them by one drawn from a loose and imperfect analogy.

The suspension of the phenomena of the life of relation, complete or partial, which constitutes apoplexy, may be connected with any of the following pathological conditions. First, great congestion of the brain, in which the vascular system of that organ is overloaded, but without extravasation of blood or serum; this is termed *the congestive apoplexy*. In the next place, we may have this congested state of the vessels of the brain with an extravasation of blood on its surface. To the latter form the *meningeal apoplexy* has been applied. Thirdly, with an effusion of blood into the substance of the brain, which is the most common case; and, lastly, we may have complete apoplexy, without morbid appearance, or, if there be such, *quite insufficient to account for the phenomena*. A man will fall down suddenly, he will lie in a state of insensibility, with stertorous breathing, coma, and paralysis, he will die with all the symptoms of the worst form of apoplexy, and yet on dissection the brain may be found *to all appearance healthy*. This is what has been termed by the older authors the nervous or convulsive apoplexy, of the real nature of which we are still as ignorant as we are of the nature of tetanus, hydrophobia, and other nervous diseases unaccompanied by perceptible organic change.

This is the *simple apoplexy* of Dr. Abercrombie, of which he gives several most important cases, and refers to others related by the older authors. You will at once admit that it is not more extraordinary that apoplexy should exist without perceptible organic change, than mania, tetanus, hydrophobia, and other affections. Of the fact there is no doubt. Such cases indeed are rare, which in one sense may be looked on as a fortunate circumstance. But in the progress of other diseases, this nervous coma or apoplexy is by no means uncommon. Thus there is no symptom more common than coma in typhus, and yet if you examine the head after death, you generally either find no lesion at all, or such as will not be sufficient to account for the symptoms. The coma, which occurs in cases of painters' colic too, appears to be closely connected with this nervous apoplexy. You will recollect an interesting clinical experiment I made in the case of a patient with painters' colic who had profound coma. In this case I thought it probable that the condition of the brain bore no resemblance to sanguineous apoplexy, because the symptoms of painters' colic are seldom or never accompanied by hyperæmia of the nervous or other systems. Under this impression, I prescribed a full opiate, and this not only did not increase the coma, but, on the contrary, produced the very best effect, for the patient was amazingly improved the next morning. I do not so much mean to say, that opium is useful in nervous coma, as that in this instance, at least, the coma was not of the congestive kind. It is not unlikely, too, that the coma of jaundice is of the same description and unconnected with any decided hyperæmia of the brain. I am aware that in jaundice the coma is supposed by some to depend upon a bilious condition of the blood circulating in the brain, but there are so many cases of persons who have laboured under jaundice for years without having coma, that we must seek for some other explanation. Now, so far as we know of the encephalon in persons who have died of jaundice, it appears that little or no congestion exists, and hence it seems probable that the coma of jaundice is similar to that of nervous apoplexy.

I shall now proceed to the consideration of those forms of apoplexy which are connected with changes more or less apparent in the circulation of the head, and with which we are consequently better acquainted. I have told you that simple congestion of the brain may be accompanied by symptoms of apoplexy, or that we may have the disease presenting in addition to this an effusion of blood into the substance, or on the surface of the brain. The simplest idea you can get of the condition of the brain in the congestive form, is to consider what its state is in persons who have been hanged. These persons have the vessels of the brain loaded with blood from the violent interruption of the venous circulation. Now, this increase in the quantity of blood circulating in the brain, may arise from two causes, one depending on the interruption of the venous circulation, the other produced by an increased action of the arterial system. Hence in certain cases of disease of the heart, where the blood is sent with great force to the head, there is a strong predisposition to apoplectic attacks. The kind of disease of the heart, however, which has been found most liable to produce this, is not, as you would suppose, Corvisart's active aneurism, but simple hypertrophy of the heart, where the cavity of the left ventricle continuing the same, its walls are increased in thickness and strength, so that on the natural quantity of fluid an increased impulse is exercised. Such at least is the result of Andral's researches, and there is every reason to place confidence in the accuracy of his conclusion.

About this congestive apoplexy there appears to have been a good deal of misapprehension. You have all heard of *the serous apoplexy*. In this form it has been supposed that the cause of the compression of the brain and all the other symptoms is an effusion of serum, just as an effusion of serum into the cavity of the pleura will produce compression of the lung and dyspnœa. The idea which has been generally entertained is, that the effusion of serum is the cause of *all* the symptoms, and, in consequence, the same active treatment has not been adopted as in the other forms of apoplexy. This opinion will be best refuted by the investigations of Dr. Abercrombie, and I cannot do better than read for you the opinions of this eminent writer on the subject, as given in his celebrated and admirable work, which I have no hesitation in saying constitutes one of the brightest ornaments of British medicine.

"The distinction, which has been proposed betwixt sanguineous and serous apoplexy, is not supported by observation. The former is said to be distinguished by flushing of the countenance and strong pulse, and by occurring to persons in the vigour of life; the latter by paleness of the countenance and weakness of the pulse, and by affecting the aged and infirm; and much importance has been attached to this distinction, upon the ground that the practice which is proper and necessary in the one case would be improper or injurious in the other. I submit that this distinction is not founded upon observation, for, in point of fact, it will be found that many of the cases, which terminate by serous effusion, exhibit in their early stages all the symptoms which have been assigned to the sanguineous apoplexy, while many of the cases, which are accompanied by paleness of the countenance and feebleness of the pulse, will be found to be purely sanguineous; and one modification of the disease in particular will be described, in which these symptoms are very strikingly exhibited, while the disease is found to be sanguineous apoplexy in its most hopeless form.

"Portal has described a series of cases which afford the same result; of three, which presented all the symptoms of serous apoplexy, one was saved by repeated bleeding, and in the other two, which were fatal, there was found extensive extravasation of blood. Case XCVI., lately described, forms a remarkable addition to these observations. If any case could be confidently considered as serous apoplexy, this was such. Dropsical effusion had existed in the body for months, and in defiance of every remedy it had been progressively gaining ground. There were symptoms indicating its existence, both in the thorax and in the abdomen; the patient then became comatose with pale countenance, and

died; but though dropsy was found in the other cavities, none could be detected in the brain.

“In other parts of the body serous effusion is very seldom a primary disease; it arises as a result either of inflammatory action, or of impeded circulation, and takes place slowly, not accumulating at once in such quantity as to induce urgent symptoms. It is therefore in the highest degree improbable, that it should occur in the brain as a primary disease, and accumulate with such rapidity as to produce the symptoms of an apoplectic attack.

“The quantity of fluid effused bears no proportion to the degree of the apoplectic symptoms. We find it in small quantity, though the apoplectic symptoms had been strongly marked and long continued; we find it in large quantity when the symptoms have been slight; and, finally, we find most extensive effusion in the brain where there have been no apoplectic symptoms at all. The direct inference from these facts is, that, in the cases of apoplexy with effusion, the presence of the fluid cannot be considered as the cause of the apoplectic symptoms.”

The same error has been committed with respect to hydrothorax, a disease almost never primary, but the result of either pleuritic inflammation, obstruction of the heart or lungs, or some analogous cause. The cause of the symptoms is not the mere effusion of fluid, but some preëxisting disease which has given rise to a serous effusion. In Dr. Abercrombie's work you will find the remarkable fact stated, that there may be a copious effusion of serum in the head without producing apoplectic symptoms. The following case, mentioned by Dr. Abercrombie, furnishes a remarkable illustration:—A patient, who had laboured under hypochondriasis for upwards of thirty years, began to decline rapidly in health. He was extremely feeble, his bowels costive, his sleep disturbed, and his appetite gone. This state continued for some time, and he began to sink, but he never complained of head-ache, giddiness, convulsions, or paralysis, and his mental powers remained unimpaired until a very short time before death. Yet, on opening the head, there was an exceedingly copious effusion of serum found under the arachnoid, and in some places this was so great as to give the arachnoid the appearance of small bladders filled with water. The ventricles were distended with fluid. Dr. Abercrombie gives another case, where the quantity amounted to eight ounces, and notices a case, mentioned by Dr. Marshall, of a maniac who died of mortification of the feet; a few hours before death he became perfectly rational, yet effusion was found both on the surface of the brain and in the ventricles, amounting to more than a pound.

All these facts go to prove, that what has been termed serous apoplexy is only an apoplectic attack depending on congestion of the brain, that in some cases we may have this congestion accompanied by serous effusion, in others not; that the effusion is secondary and by no means of constant occurrence, and that altering our practice and pursuing a less active plan of treatment in such cases would be improper. The same treatment should be adopted in the serous as in the congestive form of the disease, for where the nature of the affection is the same the same curative means should be employed. Why it is that effusion takes place in one case and not in another we cannot tell; such changes are connected with laws of organization, of which we are at present ignorant. We know as little why this should occur as why inflammation of the liver in one case is followed by enlargement, in another by the secretion of pus, in a third by cancer, or in a fourth by hydatids.

We now come to the consideration of apoplexy with extravasation of blood. This is the form of the disease to which the term apoplexy has been restricted by one of the last writers on the subject, M. Rochoux. In this affection the extravasation of blood, which constitutes the principal pathological feature of the disease, is found to exhibit a remarkable variety as to its seat and extent. In some cases the blood is effused on the surface of the brain, in others into its substance, and in a few cases into the ventricles. De Haen gives some cases of apoplexy produced by rupture of the choroid plexus, but in the great majority

of cases, where blood is found in the ventricles, the extravasation has taken place in one hemisphere, and, tearing through the substance of the brain, has made its way into their cavities. Of the three varieties of apoplectic effusions, the ventricular is the rarest; the next to this is the meningeal, or that in which the blood is poured out on the surface of the brain, and the most common is where it is effused into the substance. It has been also found that certain parts of the brain are much more liable to sanguineous effusions than others; of the reason of this, as of many other phenomena connected with the circulation of the brain, we are still in ignorance. The following table, which you should bear in mind, exhibits a remarkable preponderance in the liability to sanguineous effusions of certain parts of the brain. It has been taken from the *Precis d'Anatomie Pathologique* of Andral. The following is a summary of the results of 386 cases of apoplexy.

In 202 cases, the effusion took place into the substance of the hemispheres of the brain, in that part which on a level with the corpora striata and optic thalami. The portions of the brain next most liable to effusions are the corpora striata; and here we have 61 cases. Next to this are the optic thalami, in which we have 35 cases. In that portion of the hemispheres above the centrum ovale, 27 cases. Lateral lobes of the cerebellum, a proportion of 16 cases. In those portions of the brain anterior to the corpus striatum, 10 cases. In the mesocephalon, 9. Spinal cord, 8. Posterior lobes of the brain, 7. Middle lobe of the cerebellum, 5. Peduncles of the brain, 3. Olivary bodies, peduncles of the cerebellum, and pituitary gland, 1 in each, making 3.—Total 386. Out of these, we find 325 cases occurring in the hemispheres of the brain, corpus striatum, and optic thalamus.

In the number and size of these effusions we find the greatest varieties. In some cases an enormous effusion takes place, and many ounces are extravasated into the substance of the brain; in others, the quantity is trifling, being sometimes as small as a pea, or even less. It has been observed that in cases where numerous extravasations were discovered, they were generally found to be in different states, as if they had occurred at intervals, and not simultaneously. This leads us to the knowledge of one of the most important facts in pathology, that in many cases of apoplexy, after a clot has been formed, nature commences at an early period a process of cure. The change, which takes place in cases where a patient recovers, seems to be the following:—It becomes at first somewhat gelatinous, it is next observed to be more consistent, and it loses its red colour, and takes on a whitish or yellow appearance. The clot is gradually removed, and along with the absorption of the clot there is a process of isolation going on. A fine membranous cyst, furnished with vessels, is formed round the clot. In some cases the clot is replaced by a quantity of serous or gelatinous fluid; but in the majority of instances this does not occur, and the cyst has been found empty. This is a fact which has been established by numerous observations.

There is the greatest possible difference as to the period at which the absorption of the clot is completed; but we may safely assert, from the number of cases in which, after paralysis, a recovery takes place, that this process is of very common occurrence. In several cases, where apoplexy followed by paralysis has happened several times during the lifetime of the patient, a number of those cysts, corresponding with the number of attacks, and presenting various appearances according to the date of their formation, have been found. It appears then that the cure of apoplexy depends solely on the absorption of the clot; and that, as long as this remains unabsorbed, the patient is in danger. In some cases absorption does not take place at all, the clot becomes organized; and in this way it is supposed that some of the tumours found in the brain are formed. There are several circumstances which favour the absorption of the clot, but nothing so powerfully as a healthy condition of the whole cerebral circulation. This leads us to the consideration of the importance of paying attention to the head long after an attack of apoplexy. It inculcates the necessity

of avoiding every thing calculated to add to the existing congestion, and shows that, in the paralytic or after-stage of an apoplectic attack, we should not neglect to deplete the head from time to time. The great point is to keep the head perfectly free from irritation; for it has been found, that, where a cure appeared to be going on, any new irritation applied to the brain has had the effect of arresting the absorption of the clot, and marring the process of cure.—*London Medical and Surgical Journal, July 26th, 1834.*

9. *Circumstances which predispose to Apoplexy.* By WILLIAM STOKES, M. D.—Apoplexy with sanguineous effusion may occur at any period of life; it is not uncommon even in persons of tender years. Billiard details an instance of this in a child soon after birth. There are also several cases mentioned as occurring in children during the first three or four years. Andral gives the case of a boy of nine years of age, who died of apoplexy, with a vast effusion of blood. One of the most remarkable cases of this kind I ever witnessed, occurred in a child who had just been weaned. This child had been labouring for some time under symptoms resembling hydrocephalus, and then suddenly got an attack of convulsions, followed by coma and paralysis of one side. From a careful study of the symptoms, I ventured to make the diagnosis of apoplectic effusion, and on examining the brain after death, there were nearly three ounces of blood found effused in the base of the brain. But though apoplexy may occur at any period of life, there is a greater liability to it at a particular period. Rochoux has shown that the age at which there is this greatest liability, is towards sixty, and diminishes towards seventy. The number of cases which occur between sixty and seventy are very great, when compared with those between seventy and eighty; and after eighty he considers the liability to be still farther diminished. It seems strange, that persons after seventy should not be so liable to attacks of apoplexy as before that period, but such is the fact. It has been thought that this may be explained by the anemic state of the brain in old persons; it is said, that at such an advanced age general emaciation takes place, and the quantity of blood is greatly diminished. This explanation, however, is doubtful, because it is at present well ascertained, that persons of ordinary development, who are neither fat nor thin, and also persons of spare and delicate habit, are as much, and even more, liable to apoplexy than the fat and plethoric. It has been ascertained by careful investigations, that a high degree of plethora does not necessarily predispose to the disease, and that it is oftener met with in persons not of a plethoric habit than in those who are. These considerations throw some doubt on the opinion that an exemption from apoplectic attacks is connected with an anemic condition of the system. It generally happens, however, that at this advanced period of life, from the general debility of the system, and the incapacity for active exertion, a man ceases to employ his thoughts about business, and there is little exercise for the intellectual functions. We now have finished the task; the brain reposes from the turmoil of active and incessant thought; there is a comparative absence of mental exertion, and this may in some degree account for the rarity of apoplexy after the age of seventy.

With respect to the different temperaments as bearing on this point, Rochoux shows that in Paris, at least, there was a nearly equal frequency of the disease in individuals of the sanguine, sanguineo-bilious, and sanguineo-lymphatic constitutions. The bilious temperaments, however, are much less liable. Such is the result of the observations in Paris; but it must be recollected, as Rochoux observes, that in that city the bilious temperament is the rarest. With respect to the sanguine or plethoric, it has been found that this temperament does not predispose to apoplexy so much as has been generally supposed. The disease has been observed to be most common in persons of ordinary development, next to those in persons of thin, spare habit, and last of all, in the plethoric and fat. Rochoux's researches lead him to conclude that the number of persons of ordinary development, attacked by apoplexy, is three times that of

the plethoric, and that that of the spare habits is little more than twice as great as that of the fat and plethoric. If these researches are correct, they afford great consolation to stout gentlemen.

The conclusion, which has been come to, with respect to temperaments as bearing on the liability to apoplexy, appears to be true; namely, that there is no sign appreciable by the senses which will unequivocally point out a predisposition to apoplexy. This is of great importance in a practical point of view. You may expect the disease in the fair or dark haired, the thin or fat, alike. The frequent occurrence of this disease in persons who were never suspected to have any predisposition to it is another proof in favour of this opinion.—*Ibid*, August 2d, 1834.

10. *Diagnosis of Apoplexy.* By WILLIAM STOKES, M. D.—With respect to the mere medical diagnosis of apoplectic effusion, it would be well if, in making it, you would always bear in mind the anatomical characters of the disease. Extravasation of blood into the substance of the brain generally takes place by a tearing or separating of the cerebral tissue. A quantity of blood is rapidly effused, the substance of the brain torn, and a cavity formed. There can be no doubt that the tissue of the brain is torn, for we can see the loose shreds hanging on each side of the cavity, and mixed up with the clot. Now, what are the principles which should guide us in making our diagnosis? They are exactly the same as those in other diseases connected with a *sudden solution of continuity in the substance of internal organs*. We have, with or without any preceding symptoms of a different kind, the *sudden* supervention of new and remarkable phenomena. The phenomena which are the result of disease proceeding in its ordinary course are gradual and progressive; but occurrences of this kind are almost always characterized by sudden and well-defined symptoms. Thus, we make the diagnosis of the rupture of an aneurism of the aorta from the sudden vomiting or expectoration of blood, followed by the death of the patient. Here, you perceive, the diagnosis is founded on the *sudden* supervention of new symptoms. In the same way we may make the diagnosis of pneumothorax with a fistulous opening communicating with the bronchial tubes, and calculate from the sudden occurrence of pain in the side and the other signs of pneumothorax, that there has been a solution of continuity in the pleura. Again; if a person, labouring under hepatic abscess, is seized with a fit of coughing, and suddenly expectorates a quantity of pus, and that this is found to be accompanied by a subsidence of the tumour in the region of the liver, we make the diagnosis of perforation of the diaphragm and pleura, and the escape of the contents of the abscess into the substance of the lung. Or he may, under the same circumstances, be seized with sudden and rapid peritonitis, and here we make the diagnosis of an effusion into the peritoneum. It is on precisely the same principles that Louis has established the diagnosis of perforation of the small intestines in cases of gastro-enteritis. The patient is lying in bed, perhaps apparently improving; he is not exposed to any exciting cause, and every care may have been taken of him. *On a sudden* he exhibits symptoms of intense peritonitis, and rapidly dies. Any one conversant with such cases can easily make a correct diagnosis. On the same principles we found the diagnosis of apoplectic effusion. Almost all the instances of disease which I have given occur with a *sudden* violent invasion; and the same thing may be said of apoplexy with extravasation. It is true, that there are some cases which do not exhibit this character, but the general rule is suddenness of attack.

We may divide apoplectic attacks accompanied by extravasation into three great classes; and, if you look to the great majority of cases of this disease, you will find that, although they appear to pass by insensible degrees into one another, still, when taken and examined singly, there will be found a difference between them. This classification is that of Rostan, and I have known his principles verified in many instances. In the first class of cases, which are the worst and generally prove fatal, the extravasation is enormous. A person, apparently

in perfect health, will fall down in a fit of apoplexy, remain for a short time insensible and paralytic, and then die. In such a case as this, the ordinary pathological character is an enormous effusion of blood, or excessive congestion. In a case of the second class, we have an apoplectic seizure with coma, which disappears after some time, and the patient recovers his intelligence, *but with paralysis of one side*. The pathological character of this form is, that the effusion is more limited, and exists only on one side of the brain. Neither is the congestion so severe, and the patient recovers from the coma. In the third form, we have an attack of apoplexy of a milder description; there is scarcely any coma or loss of intelligence, and the paralysis is slight, generally affecting the muscles of one side of the face, or of one of the extremities. Let us repeat these varieties. In the first, which constitutes the *apoplexie foudroyante* of the French, there is an enormous extravasation of blood in both sides of the brain; or, if it be only on one side, the amount of the effusion is frequently such as to burst through the walls of the ventricles and get into their cavities, and in this way we may have an effusion of one side getting into the other hemisphere, or exercising such pressure on it as may give rise to *general* symptoms. Such a case as this is, I believe, generally fatal; its progress, too, is very rapid, several persons under such circumstances having died in the space of an hour, or less. In the second form, there is coma and loss of intelligence, and the patient recovers *with paralysis of one side*. Here the extravasation is never so great as in the foregoing case; the effused blood is confined to one side, and does not get into the ventricles. In the third form, the effusion is very much circumscribed, the signs of general congestion or extravasation are slight, the quantity of blood poured out is not, perhaps, larger than a nut, it is followed by partial paralysis, and there is little or no coma or loss of intelligence.

Let us take a brief review of the symptoms which attend each of these forms. In a case of the first description, we find a person, hitherto in the enjoyment of health, suddenly attacked with symptoms of intense apoplexy. You will recollect that in my last lecture I told you that apoplexy consisted in various lesions of the phenomena of the life of relation. In the most violent form of apoplexy, many authors are of opinion that there is a total paralysis in the functions of animal life. The patient falls down and remains in a state of complete insensibility, the eye no longer obeys the stimulus of light, no sound makes any impression on the ear, or odour on the sense of smelling, the sense of taste is destroyed, the skin may be now seared with a red hot iron without the slightest indication of suffering; in fact, sensation, one of the great phenomena of animal life, appears to be annihilated. If we examine farther, we find that there is a total suspension of the intellectual functions, and that the patient is unconscious of any thing passing around him. If we go to the muscular system, we find that all that part of it which subserves to the purposes of animal life is completely paralyzed. The neck, trunk, and extremities have lost their power; and, if you raise the head, trunk, or one of the limbs, they fall down like dead masses as soon as the support is withdrawn. In some cases there is a certain degree of rigidity in the muscular system, in others not. We may observe, also, that from the paralysis of the buccinators, the cheeks are alternately puffed out and sucked in during respiration. As far as my experience goes, I believe that this symptom is fatal. Here, then, we see that the great phenomena of the life of relation are suspended. The functions of organic life, however, still continue to be performed, the heart beats, respiration goes on, and the power of secretion remains; but, after some time, the functions of organic life are also suspended, and the patient dies. In some of these cases, we observe evident signs of determination of blood to the head, the face is swollen, and the lips livid; there is considerable turgescence of the vessels of the neck, with heat of the head, the skin hot, and the pulse full and strong. In other cases, however, we have a feeble pulse and a cold collapsed state of the surface.

Let us now turn for a moment to the pathology of this form of the disease. I

have already mentioned, that the extravasation sometimes occupies both hemispheres of the brain, or that it occurs on one side, and, by tearing through the substance of the brain, gets into the ventricles, and produces symptoms referable to a lesion of both sides. With respect to the simultaneous double effusion, the following is a short notice of some cases taken from the Clinique Médicale of M. Andral. A man, about 37 years of age, fell down near La Charité in a fit of apoplexy. He was immediately brought into the hospital, had prompt and careful attention paid to him, but without any effect; he lay in a state of profound coma, with complete suspension of the phenomena of animal life, and died in an hour and a half. On examination there was a double effusion of blood found in the brain, but it had not got into the ventricles. In another case, marked by simple intensity, there was an enormous effusion discovered in the substance of one hemisphere, which burst into the ventricle, tore through the septum lucidum, and passed into the ventricle of the opposite side. In the next case, no distinct trace of optic thalamus or corpus striatum could be seen, their substance being completely broken up and destroyed by the effusion. I have told you that, after a rupture of the substance of the brain and the escape of the effused blood into the ventricles, persons have not recovered, but it is a fact, and a consolatory one indeed, that a person may recover from a *simultaneous double effusion*. A case in proof of this is given by Andral. A female, who had been for some time a patient at La Charité, died of cancer of the stomach. The history of her case was, that nine years before she had an attack of apoplexy, had fallen down in a state of insensibility, and remained comatose for a considerable time, that this was followed by *paralysis of both sides of the body*, which continued for two years, after which she gradually recovered the use of her limbs. In this case, two serous cysts, such as are met with in cases where patients have recovered from apoplectic attacks, were found, one in each hemisphere of the brain. In another case, the subject of which died of visceral disease, the patient had twenty-two years before an attack of apoplexy with double paralysis, and recovered with the loss of the use of one side; here there were two cysts also found. It appears, then, that though extravasation, with rupture of the walls of the ventricles, and escape of blood into their cavities, always proves fatal, a recovery may take place after a simultaneous double effusion.

Let us now inquire briefly, whether an apoplectic attack, followed by paralysis of both sides of the body, gives sufficient grounds to enable us to make the diagnosis of either of these accidents. Does it follow, if a person has an attack of apoplexy, succeeded by paralysis of both sides, that the effused blood has burst into the ventricles, or that a simultaneous double effusion has occurred? Andral inclines to this opinion as far as I can collect. Dr. Abercrombie appears to differ from him, and gives cases in illustration of his opinions. The following is one:—A private of the 10th Hussars had been complaining for some time of a pain in the head, for which he was blistered, and the pain soon went off. On the 22d of July, 1819, he was seized with giddiness and fell down; on being raised, he vomited, and complained of violent head-ache and faintness, but was quite sensible. He was very pale, and his pulse slow and languid. He was brought into Hospital, where he asked for some cold water, made a few inspirations, and expired. From the moment of his last seizure he had been paralytic of both extremities. Here we have an attack resembling the first form of apoplexy, so far as complete loss of power in the upper and lower extremities is concerned; but observe, the *patient was not comatose and retained his faculties to the last*. On examination there was nothing found amiss with the brain, but, on removing the cerebellum, a coagulum to the amount of about two ounces was found under and surrounding the foramen magnum. Here the paralysis appears to have been produced by the pressure of the effused blood on the upper part of the spinal cord. This case is an interesting one. It appears that the injury done to the functions of the life of relation was partial, there was a lesion of the muscular function, but there was no coma, and

the intellectual faculties were unimpaired. As far then as a single case goes, we may come to the conclusion, that we are not to make the diagnosis of the first form of apoplexy, unless, in addition to the double paralysis, there are coma and loss of intelligence and sensation. The great points of diagnosis are coma, suspension of the phenomena of the mind, and paralysis of both sides of the body, both of motion and sensation. We now come to consider the symptoms of the second or milder form of the disease. A person falls down in a state of insensibility, but, when you come to examine him, you find that the coma is not so profound, nor is the paralysis and loss of sensation so complete. The eyes are to a certain degree susceptible of the impressions of light, signs of uneasiness are exhibited when strong pungent odours are applied to the nostrils, and indications of suffering are given if you pinch or burn the skin. All these circumstances prove, that the paralysis of sensation is by no means so complete in this as in the former case. You observe here, too, that instead of the cheeks being puffed out in the manner before described, there is only a partial paralysis of the muscles of the face, *and the mouth is drawn towards the sound side.* The patient, too, instead of dying in a comatose state, gradually regains his intelligence, and is only paralyzed on one side, or one extremity. All these circumstances point out that the injury done to the brain is not so extensive, and the occurrence of paralysis on one side shows that the effusion is limited to a single hemisphere of the brain. All this, too, is borne out by pathological anatomy, which shows us, in the first place, that the extent of the effusion is much less, that it exists only on one side of the brain, and never bursts into the ventricles. The general congestion of the head also is much less than in the former case. In the third form, the congestion and other symptoms are sometimes very slight. A person in health may feel a stunning sensation in the head, followed by some thickness of speech and drawing of the mouth to one side, or slight paralysis of one arm or hand, but he has no coma or loss of intelligence, and the paralysis quickly disappears. Every thing connected with the attack shows that it is very slight, the effusion is extremely limited, and this is confirmed by pathological anatomy.

I have now given you a brief sketch of the three varieties of apoplexy, between these you will meet with many intermediate cases.

Let us inquire how far does the circumstance of paralysis point out the occurrence of an extravasation of blood into the substance, or on the surface of the brain; that is, how far we can say that this patient has effusion, because he has become suddenly paralytic. It would appear, that the mere suddenness of the attack will not alone lead to the formation of a certain and accurate diagnosis. You will find in various authors many instances of affections of the head, not of an apoplectic character, in which there was sudden paralysis. Thus, for instance, there are many cases of tumours and encysted abscesses on record in which there was sudden paralysis, and where, if you should pronounce the disease to be apoplexy, you would be certainly wrong. We had lately at the Meath Hospital, a remarkable instance of this. A patient, who had been for a considerable time labouring under aneurism of the innominata, in the course of the night became suddenly hemiplegic. On examining the brain post mortem, there was a circumscribed abscess found in one of the hemispheres, but no sanguineous effusion. If you look to the works of Abercrombie, Koston, Lallemand, &c., you will find many cases detailed in which sudden paralysis occurred from other causes than apoplexy.

But are there no circumstances, which, combined with the suddenness of the attack, would lead us to form the diagnosis of apoplexy? Now it would appear that, as a diagnostic of apoplectic effusion, *suddenness of paralysis* is only to be relied on where there have been no premonitory symptoms of a local disease of the brain. In the great majority of cases of cerebral abscess, you will find that pains and cramps in some of the limbs, and pain of the head in the situation of the abscess, have preceded for some time the paralytic attack. But if a person in health, without any of these cramps or pains, gets a *sudden* attack of apo-

plexy, and becomes hemiplegic, you may make the diagnosis of apoplectic effusion with tolerable certainty. The fact of the paralysis, occurring with an apoplectic seizure, renders it highly probable that the case is really one of the hæmorrhagic diseases of the brain. On the other hand, it is true that we may have apoplectic effusions ushered in by symptoms of irritation of the brain; as in the case of an apoplectic effusion occurring in the centre of a softening of the brain. The absence, therefore, of these premonitory symptoms appears to be necessary towards forming the diagnosis of simple apoplectic effusion.

In cases where absorption of the clot takes place, we cannot suppose that any inflammatory condition of the brain exists; on the contrary, we have every reason to believe that a non-inflammatory condition of the brain is highly favourable to this process, for whenever any thing of an opposite character happens, we find that it prevents absorption. But sometimes cases occur, in which, at an earlier or later period, inflammation is set up round the clot. Now, what happens in many of these cases? Here let me repeat, that there are many exceptions to the rules given for forming the diagnosis of diseases of the brain; the variety in the symptoms of cerebral affections being so great, that it is sometimes difficult to deduce from them rules of general application. In most cases we have apoplexy followed by paralysis with resolution; but, in cases where inflammation takes place round the clot, it has been observed that the paralyzed limb which had been previously in a state of resolution becomes contracted, and then we have paralysis with contraction. This contraction generally comes on in a gradual manner, but, when the case is severe, it is frequently ushered in by violent spasmodic action of the affected limbs. We have, then, the following order of phenomena: first, paralysis with resolution, and then paralysis with contraction. In circumscribed inflammation of the brain, the phenomena are the reverse of these; we have first, rigidity and contraction of the limbs, and then symptoms of apoplexy followed by paralysis with resolution.—*Ibid.*

11. *Paralysis consequent on Apoplexy.* By WILLIAM STOKES, M. D.—With respect to the paralysis which is consequent on an attack of apoplexy, there is the greatest possible variety. In some cases there seems to be paralysis of all, or almost all, of the muscles of animal life; in others, it affects only the muscles of one side of the body. A rare and extraordinary form of paralysis has been described by the French writers, who have given it the name of *paralysis croisée*. In this form of the disease, there is an affection of both sides, but not of the symmetrical members; we find the left arm and the right leg paralyzed, and *vice versa*. This is an unusual form, in fact, the rarest to be met with in practice. We may also have great varieties in the amount of the paralysis; in some cases both sides being affected, in others only one, while in others there is only a single extremity or one side of the face paralyzed. We may also have complete paralysis of one side without any affection of the face. I remember a remarkable case of this kind, of which I shall give you an abstract. A gentleman, of stout muscular habit, and with a strong full pulse, had been suffering for a long time under an obstinate gouty affection. From a repetition of the gouty attacks he got a chronic swelled state of the lower extremities, which continued for some time, he being in other respects in the enjoyment of excellent health. The swelling, however, preventing him from taking his usual exercise, he applied for advice. Laced stockings were advised, the effect of which was, that the œdema subsided, and the motion of the lower extremities was restored. It is curious, that, between the period of the removal of the œdema and the paralytic attack which I am about to describe, this gentleman enjoyed excellent health. At the end of that time, on attempting to go over a step that led into the yard, he found he could not accomplish his purpose, and struck his foot against the stone. He immediately became alarmed and sat down, and soon after found that he had lost the power of using his arm. I saw him in a short time after the accident, and found that there was complete paralysis of the arm and leg, but no distortion of the face or tongue, or the slightest lesion of intelligence. He

continued in this state for some time, and then recovered, but it was necessary to take a large quantity of blood from him. In the first bleeding, as the pulse was full and bounding, I took sixty ounces of blood from the arm, and I think it was owing to the activity of the measures adopted, that he recovered so speedily. I mention the case merely to show that we may have paralysis of the leg and arm, without any affection of the face, or loss of intelligence. In some cases we find the paralysis affecting the tongue, face, and muscles of the eyelids; in some we have paralysis of the sphincter ani, or of the muscles of deglutition, or of the bladder, but these are rare, and the most ordinary form is paralysis of the muscles of one side, and distortion of the face. There is another circumstance, which seems to be so exceedingly frequent as to form a law, perhaps the most general of any in medicine, that paralysis occurs on the side of the body which is opposite to that on which the effusion occurs. If you have an effusion into the right hemisphere, you will have paralysis of the left side of the body, and, if the effusion be on the left side, the paralysis will be on the right. To this rule, however, it has been stated that there have been a few exceptions; how they have occurred it is totally impossible to explain, it is sufficient for us to know that such exceptions have been witnessed. Cases of this description have been very rarely seen since pathological anatomy has been studied with more diligence; it is, however, true, that a few have been detailed by men of great professional eminence. We want facts to throw light on this point, and, until this is accomplished, we must remain in ignorance of the cause of the anomaly. In the vast majority of instances, the paralysis is on the opposite side to that on which the effusion takes place, and this appears to be explained by the decussation of the fibres of the brain at the upper part of the spinal marrow, the fibres of the left side passing to the right, and *vice versa*. It is an interesting fact connected with this subject, that the muscles of the face follow the same law as the muscles of the extremities, and yet it is a fact, as you are well aware, that the nerves which supply the muscles of the face come off before the decussation of the fibres of the brain takes place. The fifth nerve, which supplies the face with muscular branches, is given off at a considerable distance from the decussation of these fibres, and yet we perceive that the muscles, to which it is distributed, obey the same law as those which derive their nerves from the spinal cord. Now, if this decussation was the only cause of the paralytic symptoms being observed on the side opposite to that in which the effusion occurs, the muscles of the face should be an exception to this law, but we find that they correspond with other parts of the muscular system in this respect. Thus if a man gets an attack of apoplexy, followed by paralysis of the left arm, we find the left side of the face affected, and *vice versa*. We must conclude from this, that the mere decussation of the fibres is not the sole cause of this peculiarity, and must look for an explanation elsewhere, by referring it to the intimate communication which exists between both sides of the brain by means of its commissures. Many persons are not familiar with the phenomena of the face and tongue in paralysis; they are, however, simple and easily explained. Let this diagram represent the head—here we have the right hemisphere of the brain, here the left. Now, suppose you have an apoplectic effusion in the right hemisphere, the consequence is, that you have paralysis of the left side of the body, according to the law already mentioned. What will then happen with respect to the face is, that the muscles of the left side being paralyzed, and their antagonism being destroyed, the mouth is drawn by the sound muscles of the opposite side from the paralyzed side, and this is invariably the case. Recollect then that the mouth is always drawn from the paralyzed side, and towards that side where the disease exists in the brain. But when you desire the patient to put out his tongue, do you find that the tongue follows the direction of the mouth? No; it goes towards the opposite side. This appears somewhat paradoxical at first, but is easily explained. The protrusion of the tongue is effected by the action of the genio-hyo-glossi muscles, which are, as you all know, a pair of fan-shaped muscles, attached to the inside of the

chin, the middle line of the tongue, and the body of the os hyoides. This diagram will represent it. Here is the muscle of the left side, and here is the right. When the patient puts out his tongue, this left half being paralyzed, and having lost its antagonism, the tongue obeys the action of this, the right half, and the fixed point of attachment of the muscle being to the right of the mesial line, the base of the tongue is brought forward, and to the right, and its point consequently deviates to the left or paralyzed side. It has been remarked also, that there is some variety with respect to the paralysis of the tongue; some patients can protrude it, others cannot. In some cases too, the patient can put out his tongue well enough, but he cannot employ it in the articulation of sounds, and his speech is quite indistinct.

With respect to paralysis of the extremities, the upper are paralyzed more frequently than the lower; and, when both extremities are engaged, the upper are generally more completely affected than the lower. When a person recovers, also, we find that the lower extremities are the first to regain their lost power and sensibility. These circumstances have been attempted to be explained by considering the particular parts of the brain in which the effusion has occurred; but, as this has not as yet been sufficiently made out, I shall pass it over. I regret, also, that I have not time to enter into the subject of the different varieties of lesion of intelligence in cases of apoplexy. I must, however, observe, that the varieties are infinite, and your trouble will be amply repaid by reading what has been written on this point by Dr. Abercrombie, and Dr. Cooke in his *Treatise on Nervous Diseases*. You will find in the latter work an extraordinary collection of facts with respect to lesions of the intellectual functions.—*Ibid*, August 9th, 1834.

12. *Paralysis from disease of the Arterial System*. By WILLIAM STOKES, M.D.—I wish to call your attention to a remarkable form of paralysis, in which the disease appears, as far as we can see, not to depend on any primary lesion of the *nervous system*. In this form we have a paralysis, not the result of any disease of the brain or nerves, but connected with an affection of the vessels of the part. This is a very singular disease, and I am anxious you should be acquainted with it, for I believe it is by no means so rare as many persons think. The other point to which I would direct your attention refers to the influence of magnetism on the human body; of this I shall speak on a future occasion, confining myself for the present to that form of paralysis which is connected with disease of the *vascular system*.

So as to give you some idea of this affection I think I cannot do better than read for you the notes of a case of it, published by Dr. Graves and myself in the fifth volume of the *Dublin Hospital Reports*.

A man, aged 44 years, was attacked in December, 1828, with alternating sensations of cold and burning heat in the toes of the right foot. These extended to the leg, of which the power became diminished. Pains in the foot next occurred, and in a month the part became cold and wholly deprived of sensation.

On the day of his admission the pain suddenly extended to the calf of the leg; and from this time he lost all power of motion in the leg. On admission the temperature of the body, with the exception of the affected limb, was natural. The pain had extended to the thigh during the night. The temperature of the limb was but 58° of Fahrenheit. Slight œdema existed about the ankle. There was complete loss of sensation from the middle of the thigh to the toes; the patient could rotate the thigh slightly, but there was no other voluntary motion possible. The femoral artery appeared like a hard cord, painful on pressure, and without pulsation. By the stethoscope we found that pulsation was also wanting in the common iliac on this side, while that of the left iliac was plainly perceptible. The patient died on the fourth day after admission, the limb having become purple, tender, and covered with vesications.

On dissection, the right common iliac appeared distended and livid, and was

completely plugged up by a dark clot, extending to the external and internal iliacs, and engaging the gluteal and obturator arteries. The same occurred in the femoral and profunda, and extended as far as they could be traced, to the tibial arteries, and to the peroneal. The lining membrane of these vessels was soft, villous, and red; the clot in some places being separated from it by a layer of puriform matter. No disease in the veins. A large portion of the vasti and rectus muscles was *white* and hardened. Here you perceive a train of symptoms, some of which might be referred to disease of the brain, if the man had any cerebral symptoms, which was not the case, for his intellect was sound, and he had no evidence of cerebral disease except the paralysis.

His constitutional symptoms were emaciation, prostration of strength, and loss of appetite. The temperature of the body was natural, but, on examining the limb, we found, (and this is a point of great importance,) that it was as low as 58° of Fahrenheit; in fact, it was quite cold. There was also complete loss of sensation from the middle of the thigh to the toes, and though he could rotate the limb slightly, it was, in all other respects, powerless. Here we have paralysis of motion and sensation in one of the extremities, *with remarkable coldness of the limb*. On making an examination along the track of the femoral artery, we found that it was painful on pressure, *without any pulsation*, and conveying to the finger the feel of a piece of hard cord. From a consideration of those circumstances, we came to the conclusion that it was not pervious, and that this would account for the state of the limb. In this case, also, we made another remark, and this, I believe, is the only instance on record in which such a diagnosis was made. Up as high as the groin, the pulsation of the femoral artery could not be felt, and we were anxious to ascertain how far farther the disease extended. The state of the femoral artery in the left groin was natural. On making an examination with the stethoscope, we found that the pulsations of the aorta were perceptible down to its bifurcation, but when the stethoscope was applied below this on either side, we observed that there was no pulsation in the right common iliac artery, but on the left side it could be traced distinctly down to the groin. Here then we had a train of phenomena, such as ordinarily occur in paralysis affecting the right lower extremity, and along with this an obstruction to the circulation in the thigh and leg. From these circumstances we made the diagnosis of obstruction of the right iliac and femoral arteries. On dissection we found that the aorta was healthy to within about six inches of its bifurcation; below this point it was partly filled by a red clot. The left common iliac was healthy, but the right was plugged up with a dark red clot, which extended into the internal iliac and obturator arteries, filling up also the femoral and its branches. The case, in fact, was nothing more or less than one of chronic arteritis.

This remarkable form of disease has been also observed by other authors. You will see in Rostan's work on the softening of the brain the reports of two cases of this disease, occurring in patients of extremely advanced age. In one, there was complete paralysis of the right arm, which was cold and livid. The fingers were threatened with gangrene, and no pulsation could be felt in the radial artery. By stimulating frictions a certain degree of warmth and motion was restored, and it was even thought that pulsation could be perceived. By degrees the power of the left arm of the lower extremities began to fail, with diminution of the force of the pulsation. On dissection, extensive disease of the arteries was found; the right brachial, at the insertion of the deltoid, was obliterated by a mass of fibrin, below which the vessel was contracted and closed; the left brachial artery was also narrowed, but without any clot; and this condition was farther met with in the crural vessels. The cerebral arteries and the aorta was diseased. In the second case, the patient, aged eighty, was attacked with violent pains in the left leg, which became cold and bluish. There was no lesion of intelligence, and the corresponding arm was unaffected. In fifteen days, the pains having augmented, a certain degree of paralysis supervened, which, however, was never complete. On dissection, (the disease having lasted

a month,) the crural artery was found extensively obliterated by a fibrinous clot. Here you observe, gentlemen, that, notwithstanding the great age of both patients, the disease was not *ossification*, but, in all probability, *arteritis*.

In persons advanced in life, the arteries are also frequently obstructed by the formation of ossific deposits within them, producing loss of power, coldness, and diminution of sensation. A similar fact may occur from the pressure of an adjoining tumour on the trunk of a principal artery.—*Ibid*, Sept. 6th and 13th, 1834.

13. *Diagnosis of Paralysis from disease of the Arterial System.* By WILLIAM STOKES, M. D.—Paralysis resulting from disease of the arterial system, is distinguished from paralysis caused by cerebral disease, by the following marks: first, by the colour of the integuments of the affected limb, which, in a case of the former description, are generally of a violet hue, or of a much deeper tinge than in the latter case, or in a state of health. It is very rare to find the two limbs of the same colour, as we do in cases of cerebral paralysis. Another mark is, that the temperature of the limb is always lower than that of the healthy one; but the distinctive sign of this form of paralysis is the *absence of pulsation in the arteries in parts where it should be naturally observed*. If to this description you join the absence of cerebral symptoms, you will seldom fail in making a correct diagnosis. I have had two cases of this disease under my care; one of them occurred in the upper, the other in the lower extremity, and, from observing the characteristic marks already detailed, I had no difficulty in making the diagnosis.

The subject of this last case is a gentleman who has been for the last four or five years labouring under paralysis of the lower extremities unaccompanied by any symptoms indicating disease of the brain. His intellect remains not only unimpaired, but in a state of high activity; and, what is equally singular, he has had none of the usual symptoms of disease of the vertebræ or spinal cord. His limbs, however, are quite powerless, and are of an *icy coldness*, and yet you will hardly believe me when I tell you that I have repeatedly felt the femoral, popliteal, and even the anterior tibial arteries pulsating distinctly! This is a singular fact, but I have verified it by a number of observations. You will perceive, then, that in taking a remarkably diminished temperature as a diagnostic of paralysis from arterial obstruction, we must admit that as a sign it is only valuable *when combined with absence of arterial pulsation*. In this case, the fact of such extreme coldness of the lower extremities at the same time that their circulation continues with undiminished activity, becomes of great importance, as tending to prove that the temperature of the body depends more upon the state of innervation than on arterial action. There are, indeed, many facts which go to prove that animal heat is more closely connected with the nervous system than with the circulating.

It is to that peculiar form of this disease, which is considered by some authors to depend on ossification of the arteries, that the name of “Pott’s Gangrene” has been applied. A great deal of light has been thrown on this disease by the researches of modern pathology. It is now pretty well-established, that we may have this gangrene, not only in old persons from ossification of the arteries, but also in the young from arteritis. In truth, the pathology of Pott’s gangrene appears to be of one or two changes,—either an arteritis or ossification of the arteries themselves; and of these two causes the first is by far the most frequent. You will see at once the importance of this view of the question, for if the gangrene occurs in a young person, and is connected with inflammation of the arteries, it is a disease more or less under the controul of medical treatment; but if it be produced by ossification of the arteries, the results of treatment are far less likely to be successful.

We have, then, in a case of paralysis of this description, more or less loss of sensation and motion, coldness of the limb, and absence of arterial pulsation. With respect to coldness, it may be said that it is of little value as a sign, being frequently observed in cases of cerebral paralysis. To this it may be replied,

that though coldness is sometimes present in cases of ordinary paralysis, still it is never so remarkable as in this form of the disease, and the temperature of the limb is but a few degrees below the standard of health. Dr. Abercrombie makes a very interesting conjecture on this subject. He says, the temperature of paralyzed limbs is generally considered to be lower than that of the healthy ones, and, indeed, such is the case; but the true explanation of this occurrence is, that in this condition the limb loses its power of preserving a medium temperature, and hence it is that, according to the temperature to which it has been exposed, it becomes hotter or colder than the healthy limb. A case is mentioned of a medical man who laboured under paralysis of one of the upper extremities. This gentleman, on one occasion, after having applied some warm bran to the paralyzed limb, was astonished to find, on touching it with the sound hand, that he could not bear the heat, though he was at the same time unconscious of any increase of temperature in the paralytic extremity.

The symptoms, then, of this form of paralysis, are diminution or abolition of sensation and the power of motion, a dark or violet hue of the skin, remarkable coldness, and absence of pulsation in the arterial trunks which supply the affected limb. These, with a tendency to the formation of gangrene, are the characteristic marks of the disease, and, by bearing them in mind, you will seldom err in making a diagnosis. In the great majority of cases the disease is confined to one extremity; but Rostan gives some cases in which it was more general. We might also add to the diagnosis, that paralysis connected with disease of the brain often comes on suddenly, while, in this case, its invasion is slow and gradual. It is, however, true, that some cases of paralysis, depending on this cause, have come on so suddenly, as to render this circumstance of less value as a diagnostic.—*Ibid*, Sept. 6th and 13th, 1834.

14. *On Paraplegia.* By WILLIAM STOKES, M. D.—Before I leave the subject of paralysis, I wish to draw your attention to one more form of the disease by no means uncommon; I allude to that in which *both* the lower extremities are exclusively engaged. This is a disease or symptom which may arise from a great number of causes, and be observed under a variety of circumstances. Generally speaking, however, it will, in almost every instance, be found to depend on some cause which engages the spinal marrow, either primarily or secondarily. I believe that this paraplegia, as the result of disease of the brain, is never met with except in combination with paralysis of the upper extremities. General paralysis may be produced by cerebral disease, and in describing the various forms of paralysis which depend on disease of the brain, this form has been particularly noticed, but when paralysis of the lower extremities *alone* occurs, it is generally the result of some lesion of the spinal marrow, either organic or functional, below the situation in which the brachial nerves are given off. Among the causes by which this paraplegia is produced, the following are the principal: inflammations of the membranous coverings of the spinal cord with effusion of lymph or serum; spinal apoplexy; ramollissement from inflammation of its substance; pressure on the cord, by solid tumours from a variety of causes; the bursting of abscesses or aneurismal swellings into the vertebral canal as occurs in some cases of aneurism of the abdominal aorta. Thus during the progress of a case of this description, it has been observed that the patient suddenly became paraplegic, and, on examination after death, a quantity of blood which escaped from the aneurismal tumour has been found compressing the spinal marrow. Lastly, recent investigations have established the fact that we may have paralysis of the lower extremities, and yet on dissection *we cannot detect any traces of disease in the bones of the vertebral canal, or in the membranes or substance of the spinal cord.* Hence, gentlemen, you see how cautious you should be in making the diagnosis, so common among surgeons, of caries of the vertebræ, in cases of paralysis of the lower extremities. The truth is, that in the present state of medicine on this subject, we labour under very great difficulties; the diagnosis of these affections is exceedingly obscure; it is a subject

still open to investigation, and I need not remark that it is one of paramount importance.

Paraplegia is one of the most miserable diseases to which the human body is liable. It is almost always obstinate and unmanageable, and in the majority of cases incurable. How far the fatality of the disease depends upon the want of an accurate diagnosis, and a correct plan of treatment, must be determined by future observations, but it is a fact that a vast proportion of paraplegic patients die, and under the most melancholy circumstances. In many cases the formation of gangrenous sores on the back and loins is a common occurrence. For this there are two reasons; first, the vessels of those parts exposed to pressure from position fall into that state which Andral terms *mechanical hyperæmia*, the result of which is that they are unable to unload themselves, a stasis of blood follows, and this leads to mortification of the part; secondly, there is a lesion of innervation. Hence it is that the great majority of patients of this kind die with gangrenous sores on the back and loins. They have also most constantly paralysis of the bladder or its sphincter, or both, producing retention of urine, or retention with incontinence, or stillicidium urinæ. The sphincter ani, too, is generally paralyzed, and we have a most melancholy and disgusting source of annoyance. The frequent passing of urine and fæces keeps the unfortunate sufferer in a state at once pitiable and loathsome, and when, in addition to his other calamities, the gangrenous sores form, the supervention of low diffused erysipelatous inflammation may prove fatal; or he may be carried off with symptoms of typhus fever from the absorption of putrid matter.

While on the subject of paraplegia, I am anxious to lay before you a sketch of some important opinions lately put forward by Mr. Stanley, of London. In the last number of the *Medico-Chirurgical Transactions*, this gentleman has written a most interesting paper, in which he gives the history of several cases of paraplegia, the majority of which were supposed to be examples of caries of the vertebræ, but in which, on dissection, no disease could be discovered, either in the bones of the vertebral canal, or in the membranes or substance of the spinal cord. You will ask, were there no pathological phenomena in these cases? There were, but they belonged not to the spine or its contents, but to an organ in its immediate vicinity—the kidney. From a candid review of Mr. Stanley's cases, there appears to be reason to believe that disease of the kidneys may produce all those symptoms which have been attributed to lesions of the spinal marrow, or caries of the vertebræ. In the four first cases, the symptoms given as of caries of the vertebræ were present, and the cases treated as such. On dissection, no caries, or disease of the cord, could be discovered in any of them, but the kidneys were found to be the seat of extensive disease. The fifth case was a remarkable one: the patient had been admitted for retention of urine, the consequence of severe gonorrhœa, which had been checked by injections. The bladder and sphincter ani became paralytic, and he lost the power of the lower extremities to a certain degree. He also complained of severe pain at the fifth lumbar vertebra. He distinctly traced the pain from the bladder to the left kidney, and then to the right. Paralysis of motion, and; nearly, completely of sensation of the lower limbs, next supervened, and in about a fortnight he died. On dissection, the kidneys were found in a state of inflammatory softening, and with numerous depositions of pus. The bladder was inflamed, but the brain and spinal cord were perfectly healthy. In the sixth case, a patient, while in progress of cure of a gonorrhœa with phymosis, was suddenly seized with paraplegia. The functions of the brain were unaffected. He had suffered for a day or two from pain in the loins. Sixteen hours after this attack, he suddenly died.

From considering the former cases, Mr. Stanley predicted that inflammation would be found in the kidneys. A slight turgescence of the vessels of the cord, with a little transparent effusion in the theca, were found, but the kidneys were in a state of the most intense engorgement. In this case, it was remarkable that from the period of the paraplegia, there was an inordinate se-

cretion of urine. The seventh case was that of a patient who, for two years, had been labouring under pain of the back, increased by pressure, and incontinence of urine. On dissection there was some vascularity and effusion of the cord, but both the kidneys were almost entirely destroyed by disease. In addition to these, Mr Stanley mentions four more cases, which were seen by a friend of his, Mr. Hunt, of Dartmouth, which corroborates his opinions.

Here, then, we may have well-marked paraplegia without any perceptible organic change in the spinal cord or its investments, but presenting distinct traces of disease of the kidneys. This leads us to observe the very close connexion which exists between the kidneys and spinal cord, a connexion which has been long recognised by medical practitioners, but only in a limited point of view, for though they were of opinion that disease of the kidneys, and a discharge of ammoniacal urine, were the results of spinal disease, they never seem to have reflected that the reverse of this might happen. It seems now, however, to be almost completely established, that disease of the kidneys may produce symptoms which are referable to disease of the spine; and Mr. Stanley has the credit of having been the first who directed the attention of the profession to this circumstance, and his paper must be considered as one of the most important, and practically useful, which has appeared for a length of time. You should all peruse it carefully. The fact that disease of the spine will give rise to affections of the kidney, is long known, and has been proved by numerous experiments. Thus Ollivier details the experiments of a German physiologist, M. Kreimer, who, by dividing the lower part of the spinal cord in animals, made the urine ammoniacal. You will also find in Dr. Prout's work, that an ammoniacal state of the urine may be rapidly brought on by injuries of the back from falls or bruises on the spine. It is indeed singular how quickly those profound functional lesions of the kidneys supervene on injuries of the spine, sometimes appearing in four or five days, sometimes sooner. Medical men have hitherto been in the habit of looking at this matter only in one point of view; they know that disease of the spine will produce disease of the kidneys, and here they stop; but it has been shown that the reverse of this may happen, and that renal disease may produce very remarkable lesions in the functions of the spine. Of this very curious occurrence we have many analogies in pathology. Thus, for instance, in several cases of cerebral disease, but chiefly in hydrocephalus, we have vomiting; here we have functional disease of the stomach depending on an affection of the brain. Take the reverse of this,—observe the delirium which attends a case of gastro-enteritis,—here you have the functions of the brain deranged in a most remarkable manner, and this produced by sympathy with an inflamed mucous membrane. The truth is, that in the spine and kidney, as well as in various other parts of the system, we have two organs which are so closely connected by sympathy, that disease of one will bring on serious functional lesion of the other.

Observe then, gentlemen, the great importance of these inquiries. When you meet with a case of paraplegia, you are not at once to conclude that it depends on disease of the spine or caries of the vertebræ. You must carefully investigate its history, and ascertain whether it may be referred to either of these causes, or whether it may not rather depend on disease of the kidneys. That it may depend on the latter cause is now established, for the cases are too numerous for us to suppose the complication accidental. You will observe the importance of making an accurate diagnosis when you consider that this point will most materially influence your treatment. In the one case, your treatment will be directed to the bones and cartilages of the spine; in the next, to the spinal cord itself; and, lastly, to the kidney, a parenchymatous organ, to which there is a great determination of blood. No one will venture to assert that the principles of treatment in each of these cases are the same; and the chances are, that, if you do not make a correct diagnosis, you will practise improperly, and without success. I have now seen a number of these cases, but there were only two of this description in which I was fortunate enough to ob-

tain a post mortem examination. I cannot say that my dissection exhibited remarkable disease of the kidneys, (they were large and very vascular,) but, from the many points of resemblance they bore to Mr. Stanley's cases, I was led to conclude, that if they were not examples of actual chronic disease of the kidney, they were cases of lesion of function in the spine, unaccompanied by any organic change to account for the symptoms. I shall briefly detail these cases;—the first was that of an unfortunate man from the country, who was discovered by two friends of mine under peculiar circumstances. While on an excursion they were requested to visit a poor man who was lying ill at a remote farm-house. They heard he had been labouring under a dropsical affection for a long time, and had been treated for ascites. On arriving at the cottage, they found the man lying in bed, with his abdomen very much enlarged; and, on farther investigation, discovered that he was quite paralytic of the lower extremities. On examining the belly more particularly, they found that the swelling was produced, not by ascites, but by *an enormously distended bladder*. He had also *stilticidium urinæ*, with paralysis of the bladder; and this having been mistaken by the medical practitioner who attended him for suppression of urine he had prescribed diuretics, and continued this plan of treatment for some weeks, totally overlooking the paralysis of the bladder. As little or nothing could be done for him in the remote situation in which he lived, it was determined to send him up by easy stages to Dublin, and procure him admission at one of the public hospitals. On his arrival he was received at the Meath Hospital; and when I visited the wards next day, I found that he was quite paralytic of both lower extremities, that the bladder was in the state above described, and that his health had suffered considerably, and that bed-sores had formed on his back, and were increased by his journey. I prescribed cupping and blistering, which were productive of some slight relief, but in the space of a few days he began to exhibit symptoms of low typhus, as if from the absorption of pus, and sank rapidly. On examining his body, we could not detect any traces of disease in the bones or cartilages of the spine; neither did the cord, or its membranes present any marks of organic lesion, except that towards its lower portion, where it begins to spread out into the cauda equina, it was perhaps a little softer than natural. I regret very much that I did not note the circumstances of this case more fully; but, as far as my recollection of it goes, the general features were as I have just mentioned. I had another case some time since in the Meath Hospital, in which the following circumstances were observed:—The patient, a labouring man, generally employed about the quays, was brought into the hospital with paraplegia of some standing. The first symptom in his case belonged not to the spine, but to the urinary system; he had had an attack of gonorrhœa, for which he had used stimulants and balsams; and, in some weeks after, without any injury to the spine, he lost the use of his lower extremities. During his stay in the hospital the urine was intensely ammoniacal. On examining his body after death, we could not discover any disease of the bones or spinal marrow. A layer of substance resembling fat or organized lymph was found lying on the theca of the spinal marrow, but it was so very small as to be scarcely sufficient to account for the symptoms. The kidneys were pale, flabby, and without any vascularity, but did not present any marked traces of organic lesion.

Here, then, gentlemen, were two cases which, before the publication of Mr. Stanley's paper, would be considered as examples of organic disease of the spinal cord or its investments; and yet, on dissection, we can find nothing to establish this opinion; and, in the last one, the first affection was of the urinary system.

Is it possible that a *functional* disease of the urinary system may produce also a *functional* disease of the spinal cord?

With respect to the diagnosis of caries of the spine, I wish to make a few observations. The diagnosis where there is distortion of the spine, is extremely easy, but this does not hold where the caries is accompanied by distortion. Let

us inquire—are there any circumstances which would enable us to arrive at the diagnosis of caries without distortion? One symptom, not observed, as far as I can see, in paralysis *connected with disease of the kidney* is, that the patient feels exquisite pain on motion. This is an exceedingly common symptom in caries of the vertebræ, but I am not aware that it occurs in cases where the disease is situated in the kidney or the spinal cord itself. There is another remarkable circumstance:—When the patient attempts to move, he often feels a cracking sensation in the affected portion of the spine; and this has not only been observed by the patient himself, but is also perceptible to his medical attendants. When this occurs, it may, I think, be looked on as a diagnostic symptom. The exquisite pain on motion, the tenderness of the spine on pressure and the cracking sensation,—these might be sufficient to make the diagnosis of caries of the vertebræ, even in cases where there was no distortion. But if you had a case of paralysis of motion and sensation of the lower extremities, and if these symptoms came on without any injury of the spine, if there was little or no tenderness on pressure, if the patient felt scarcely any pain in turning or moving, and if he had at the same time symptoms of disease of the kidney or bladder, and ammoniacal urine, under these circumstances the great probability would be, that it was not a case of caries of the vertebræ, or original disease of the spinal cord or its investments, but a lesion of function of the spine, connected with organic or functional derangement of the kidneys. It must be acknowledged, however, that the diagnosis of this affection is rather obscure. The circumstances which I have just mentioned might enable you to get rid of the opinion that it was caries of the vertebræ or organic disease of the spinal cord, and that it was probably such a case as Mr. Stanley has described; and if you could arrive at this diagnosis at an early period of the case, it would be a matter of great importance. By doing this you would then be aware that you had to deal with an inflammatory affection of a highly vascular organ; you would not be led away from the real state of the case, or waste time in treatment calculated to stimulate the spine, or remove disease of the vertebræ. Your plan would be simple, and your treatment defined, and all your efforts would be directed towards removing the disease of the kidneys. You will easily perceive, gentlemen, that diagnosis is here of vast importance; unfortunately, it is still involved in obscurity.

The prognosis of cases of paraplegia, when once complete paralysis is established, should be always unfavourable. The fact of paralysis occurring, is sufficient in itself to prove the existence of extensive disease in most cases. There may be, however, some cases susceptible of cure, and this particularly occurs in young females, in whom a perfect cure has been frequently accomplished by the use of stimulant embrocations to the loins. I have seen one case of this kind, in which the patient was paraplegic for a year and a half, cured by the application of hot oil of turpentine over the lower part of the spine. Simple as the treatment may appear in this case, its success was rapid and complete. Mr. Crampton has mentioned to me the particulars of another case, in which the patient's limbs were quite rigid, and could not be moved without great difficulty; in this case, complete relief was obtained by applying Pearson's liniment over the lower part of the spine. This liniment produced powerful counter-irritation, and an eruption of bullæ over the body, which were speedily followed by relief. The patient is now in the enjoyment of perfect health, and since the period of her cure, which is now better than six years ago, has had no return of the disease.—*Ibid*, Sept. 13th, 1834.

15. *Symptoms of Cerebritis.* By WILLIAM STOKES, M. D.—There is much error prevailing with respect to inflammation of the brain and its membranes. Persons are in the habit of supposing that the symptoms of this affection are constant and well-marked, whereas the truth is, they are subject to very great varieties.

The first symptom to which I shall call your attention is *pain*. This, you

will recollect, is a prominent symptom of most visceral inflammations where the disease is situated on, or close to, the surface of the organ, but when it is deep-seated this symptom becomes more or less obscure. Now, in a case of arachnitis, we have a double source of pain, one depending upon the affections of the serous membrane, the other arising from the circumstance of disease being situated on the surface; and hence it is, that, in the great majority of cases of arachnitis, pain is a constant and prominent symptom. Still, if you were to conclude that pain is *always* present in arachnitis, you would be wrong, for there are many cases on record in which it was either partially observed or completely absent. You will be greatly assisted in your pathological studies by attending to the different results of inflammation of analogous structures, for we find that in some of the inflammatory affections of serous membranes there is little or no pain. We may, for instance, have pleuritis, pericarditis, and even peritoneal inflammation latent, so far as pain is concerned; nay, many persons have gone so far as to say, that it is only where the muscular tissues of the belly are engaged that we have pain in peritonitis. I have seen pericarditis run through all its stages without any pain being complained of by the patient. Now, if this absence of pain be a matter of no unusual occurrence in some inflammatory affections of the pleura, pericardium and peritoneum, there is no reason why it may not occur in some cases of arachnitis. Still, it must be acknowledged, that pain is one of the most remarkable and constant symptoms of arachnitis; and that, of all the serous membranes, the arachnoid seems to be endowed with the greatest sensibility.

We might inquire here, whether the pain of cerebral inflammation be significant of any particular lesion of the brain. I believe that upon this point the state of our knowledge is very unsatisfactory. Pain, as a symptom of cerebral inflammation, occurs in very different cases. We may have it in connexion with disease of the superior, lateral, or inferior parts of the brain; we may have it in cases where the result of the disease is a serous, hæmorrhagic, or purulent effusion. The rule, then, to be borne in mind is this:—first, that it is present in the great majority of cases of arachnitis; next, that it may accompany many different lesions; thirdly, that it may be absent; and lastly, that with the same lesions we may have pain in one case, and absence of it in the other.

The next subject for inquiry is, does the seat of pain generally point out the seat of inflammation? Andral distinctly affirms that it does not. In some cases, pain of the frontal region has been found to accompany disease of the ventricles, and pain in *one side* of the head, an affection of the arachnoid covering of both hemispheres. We see the same thing occurring in the case of other serous membranes. Thus, in the pleuritic inflammation of phthisis, pain is very seldom felt in the situation of the disease, but generally lower down, and I have seen some cases in which pain has been complained of only in the sound side. I recollect a case of very extensive pneumonia, in which the patient complained only of some pain in the region of the kidney and small of the back.

The pain which accompanies arachnitis, generally sets in at an early period of the disease, and is characterized by great intensity, two circumstances in which it resembles the pain of pleuritis. In most cases, it is found that any thing that impedes or oppresses the circulation of the brain, increases this pain; and hence it is that some practitioners are led to think, that if pain of the head be relieved by pressure, it cannot be inflammatory. Now, I wish to call your attention to this point, because, in some cases where evident marks of arachnitis were found after death, it was observed that during life the pain of the head was relieved by pressure. The patients have been found with a bandage tied firmly round the head, from which they experienced decided relief, and yet a post mortem examination gave unequivocal proof of the existence of arachnitis. So far, then, as these cases go, it appears that the mere fact of pain being relieved by pressure does not prove that it is unconnected with an inflammatory cause. The pain, too, of an arachnitis may be intermittent, and

continue to exhibit this character even for a considerable length of time. I have seen many instances of this in children, where the little patient was seized with acute pain of the head at a particular time of the day, which after a few hours' duration, subsided, and then returned again the next day at precisely the same hour, and continued in this way for several weeks, until at length his friends were surprised by the unexpected supervention of coma, convulsions, or blindness. I knew two cases of this kind in which the intermittent character of the pain was so prominent as to engross the practitioner's whole attention, so that the real nature of the affection was overlooked, and bark prescribed. I have now witnessed three or four of these regular quotidian attacks of pain in children, which after continuing for days and even weeks were suddenly followed by perfect blindness, in some cases with, and in others without coma.

You might here ask, whether pain is to be considered as a diagnostic of arachnitis? I cannot say it is. We constantly meet with severe pain of the head without arachnitis, and every one knows that the head-ache of fever is by no means an indication of inflammation of the brain. In many cases of hysteria, the head-ache and determination of blood to the head are violent, and yet unconnected with inflammatory action. I know a young lady who is frequently attacked with the most agonizing head-ache, accompanied by violent throbbing of the carotids and great heat of the face and scalp. Yet in this case it is plain that the pain cannot be inflammatory, for she has been subject to these attacks once or twice a week for the last six years, and yet continues otherwise in a state of good health. If her disease were to be measured by the violence of the pain and determination of blood to the head, it would be natural to expect that death would have long ago put a period to her sufferings. This is another proof of the truth of the opinion, that there is no single pathognomonic symptom of disease. Bear this in mind. I might go farther, and say, that whether we looked to symptoms or signs, the rule was the same. The man who merely looks to a single sign or symptom will frequently err; it is only from the whole group of signs and symptoms presented by a disease that we can arrive at any accurate diagnosis.

The state of the eye, in cases of arachnitis particularly, has attracted much attention. On this subject much valuable information has been obtained by the laborious investigations of Andral, of which I shall give an abstract. He states that the phenomena of the eye, in cases of cerebral inflammation, may be reduced to three classes; its motions, the various conditions of the pupil, and the state of vision. With respect to the first of these, it may be observed that in some cases we find the eyeball in constant motion, in others it is quite fixed, while in others the balance of muscular power is lost, and there is a constant tendency to strabismus of one eye or both. Of all these varieties in the state of motion, the last appears to be the most valuable so far as the diagnosis of arachnitis is concerned. By many persons this strabismus is looked upon as a sign that *effusion* has taken place, and that the disease has reached its incurable stage; a position which I am inclined to doubt, from having seen cases recover in which this symptom was present. However, Andral looks upon strabismus as a very valuable sign, and thinks that of all the lesions of motion of the eye it is the most important with respect to the diagnosis of *arachnitis of the ventricles*. With respect to the condition of the pupil, it is stated in books that in the early stage you have a contracted, and in the advanced a dilated pupil, and that the latter condition signifies that effusion into the brain has taken place. Now the truth is, that this statement must be received with great caution, and as admitting of numerous exceptions, for it has been established that the same lesions of the brain are sometimes accompanied by very different conditions of the pupil, and *vice versa*. Parent and Martinet, who have investigated the subject carefully, are the best authorities on this point, and I shall give a brief abstract of their experience. In cases where *both pupils were dilated*, they observed that in some there was effusion into one of the ventricles, in others

into both. In cases where there was no dilatation, they observed that in some there was serous or purulent effusion under the arachnoid; while in others, in which there was no effusion whatever, the pupil was dilated. Lastly, it was found that in some cases, where only one pupil was dilated, there was effusions *into both sides of the brain*. You might here ask, whether effusion into the substance or on the surface of one side of the brain is connected with a dilated condition of the pupil? In reply to this, it may be stated, that effusion into the substance not of one, but of both hemispheres, has been known to be accompanied by a contracted state of the pupil to the last. You may also have one pupil contracted and the other dilated; nay, you may have *an alteration of these conditions*, the right being dilated to-day, the left to-morrow. The mere circumstance, then, of dilation or contraction of the pupil is no sign, when taken by itself, as to the seat or even the existence of effusion, for you may have either condition with or without effusion, and you may have dilatation of the pupil of one eye with an effusion into both sides of the brain. As a general rule, however, it seems to be made out, that in most cases of cerebral inflammation terminating in effusion, there is often, towards the advanced period of the disease some dilatation of pupil, and that this condition generally marks the occurrence of effusion.

With respect to the affections of the function of vision, there are great varieties. Some patients have double vision: others see sparks of fire, or *muscæ volitantes*. There are many other phenomena of the kind, causing a great variety in the symptoms, and this variety is found to depend more on the susceptibility of the brain to irritation, than on the mere existence of irritation of the serous membrane investing it. The same rule applies to all cases of serous inflammation, the phenomena of inflammation varying according to the susceptibility of the organ which the inflamed membrane covers. Thus, for instance, one patient will have pericarditis with palpitations of the heart, another without them; their occurrence or non-occurrence merely showing that the heart is more or less susceptible to irritation. So it is with respect to the brain, and the symptoms of deranged vision are connected with the greater or less susceptibility of the organ, which we know varies very considerably in different persons. This remark applies to all the forms, and, I believe, all the phenomena of meningitis.

In acute disease of the brain and its membranes, we often have convulsions and paralysis, and in these symptoms also we find great variations. In some we have convulsions of one side, in some of both, in others we have paralysis, but scarcely any convulsions. The same remark also applies to these symptoms, as to some already mentioned; namely, that we cannot from them alone form an accurate estimate of the situation or amount of disease. You may have convulsions and paralysis of various kinds with the same kind of lesion, and you may have a variety of lesions with the same paralysis and convulsions. The only thing that appears to be pretty well established is this, that generally speaking, in cases where the right side of the brain is engaged, you have convulsions and paralysis of the left side of the body, and *vice versa*.

Before I proceed to speak of delirium, I think it necessary to say a few words more with respect to convulsions, as I find Andral has not touched on a point to which I beg to call your attention. The occurrence of convulsions in a child, labouring under symptoms of inflammation of the brain, is always looked upon as formidable, and indeed it is natural that convulsions, to persons unacquainted with pathology, should seem to point out a great intensity of disease. I have, however, been long of opinion that convulsions occurring during the existence of hydrocephalus in children, or of meningitis in adults, are not so dangerous as persons generally think. I will even go so far as to say, that the worst cases I have seen, in which a cure was effected, were those in which there were the greatest and most violent convulsions; and that in most of the cases which appeared to go on without any benefit from medicine, there were scarcely any. I am of opinion that convulsions are often of benefit

by giving relief to the brain. This statement must appear somewhat paradoxical, but I trust I shall be able to prove to you that it has some foundation in truth. Broussais has taught that there appear to be two great modes of reaction in the economy, to obviate the effects of anormal stimulation applied to important viscera, fever and convulsions. The irritations which attack the cerebro-spinal system may be relieved by convulsions; those which attack the viscera may be relieved by fever and secretion. This doctrine, I think, might be expressed otherwise. The irritations of organs are often relieved by an increase, with or without alteration of *their secretions*. But as we have used the term *secretion* to express something material, we apply the proposition merely to the viscera of organic life. Now it may also be extended to the organs of animal life. A violent expenditure of nervous power may relieve the brain or spinal cord, and delirium and convulsions prevent or modify organic changes, just as secretion from the lung or bowels may prevent ulceration.

I have said that the brain might be relieved by convulsions. Let us, holding this assertion in view, compare the phenomena and results of apoplexy with those of epilepsy. In the first place, it is to be remarked that the earlier phenomena of both are the same, namely, an active congestion of the vessels of the head. Any one who has seen the first stage of both must admit this. But let us follow them up through their remaining stages. In the one we have the determination to the head followed by convulsions more or less violent and protracted, which, however, subside after some time, and the patient gets well; in the other there is either death from the violent determination of blood and probable effusion, or, if the patient recovers, there is very often paralysis, showing that injury has been done to the substance of the brain. Now, here we perceive that the case of determination without convulsions is that in which there is either death or recovery with paralysis; there are no such bad consequences to be dreaded where the determination of the head is followed by convulsive fits. In apoplexy we have congestion followed by death, or recovery with paralysis; in epilepsy we have congestion, convulsions, and relief. It is plain that, if we admit the identity of the phenomena in the early periods of both, we must then also admit that the only cause of relief we can ascertain is convulsions. This idea of the subject will explain how it is, that a man may continue for years subject to repeated attacks of cerebral congestion, and yet continue to enjoy tolerable health. It will also explain why it is unnecessary and sometimes even dangerous to bleed in epilepsy. It also shows why it is so often unaccompanied by paralysis, because the brain is relieved by the expenditure of its nervous energy on the muscular system. I think we should generally look upon the occurrence of convulsions, in a case of cerebro-spinal irritation, in the light of an attempt at a crisis made by nature itself. What is a crisis? An organ labouring under irritation is suddenly relieved by a new process taking place, either in itself or in some other part; and when we come to examine what these modes of relief are, we find them to consist in the occurrence of supersecretion, hæmorrhage, exanthematous eruptions on the surface, or convulsions. There is no doubt that when we look to the results of the sudden supervention of a copious secretion in an inflammatory affection of any secreting organ, the source of relief is manifest. If we take two cases of hepatitis or bronchitis, one attended with copious secretion, the other without any secretion at all, it will be easy to conceive how much more dangerous the latter is, and how much more difficult to manage. Now, if we consider the brain in this point of view, we find that it is not a secreting organ, in the ordinary acceptation, and that the only mode in which it can relieve itself is by the expenditure of its excess of nervous energy on the muscular system, or by the same expenditure of mental energy, as in the case of high delirium. I think we might fairly draw an analogy between this mode of relief and that which in other diseases is the result of hæmorrhage or secretion. One fact, at all events, appears certain, that in two most remarkable cases of different diseases, each, however, characterized by the same phenomena in the early stage,

namely, active determination to the head, we find that the case which turns out favourably is that in which convulsions occur, (namely, epilepsy;) while, in apoplexy, where these symptoms are absent, we have either death or recovery with paralysis.

If this opinion be well grounded, it would militate strongly against the practice of checking the convulsions of meningitis by opiates. I feel convinced that this practice is wrong and dangerous. Its effects may be as injurious as the arresting the reactions by astringents in a case of acute inflammation. There are two ways in which we can explain its bad effects. In the first place, opiates prove detrimental by checking the convulsions, which appear to be a mode of relief adopted by nature; and, next, they must do mischief from their well-known tendency to add to the existing cerebral congestion. I have now seen a good many cases of meningeal inflammation, in which convulsions took place, and where opiates were employed to remove them, and feel compelled to state that the opium has certainly relieved the convulsions, but the patients have afterwards fallen into a state of profound coma, from which they never recovered. I have witnessed this so often, that I should not discharge my duty properly, did I not warn you against the employment of opium in arachnitis. The same rule most commonly holds good in cases of visceral inflammation, where an organ is in a state of irritation, and has its secretions suppressed. Here also opium, by arresting secretion and increasing congestion, will be productive of bad effects. I allude here particularly to the treatment of pneumonia by opium, as recommended by Dr. Armstrong, who lays great stress upon its use in full doses after having premised a single bleeding. I have had some experience of this mode of treatment, and find that the effect of the opium is, not to remove, but to convert a manifest into a latent disease. I have seen the pain, dyspnoea, and cough subside, but the fever continued, and the destructive process of the lung went on as usual. This is the result of my experience.

I shall now make a few observations on the occurrence of delirium in disease of the brain. In one of my former lectures I alluded to the important fact, that in the majority of cases of meningitis, where delirium was present, there was inflammation of the convexity of the brain. I stated also, that, when inflammation attacked the base of the brain, we might have it going through all its stages without delirium, and pointed out the importance of this in favour of the phrenological doctrines. Andral admits the occurrence of delirium in case of inflammation on the convexity of the brain, but his reasoning upon this subject appears to me to be inconclusive. He divides affections of the convexity of the brain into those which are characterized by delirium through their whole course, and those in which coma is the most remarkable feature, and seems to think that where coma is the most remarkable symptom, the results of the case are unfavourable to phrenology. But we shall find on examining these cases, that in many of them, where coma was the predominant feature, there had been delirium in the commencement. He gives the details of thirty-nine cases accompanied by delirium all through, in thirty-six of which there was disease of the convexity of the brain, either simple or complicated with arachnitis. As far then as his first set of cases go, they are in favour of the opinion that inflammation of the convexity of the brain is most commonly attended by delirium. It appears also, that those cases in which coma was the most remarkable symptom, there was more or less delirium in the commencement; so that whether we take the cases in which there was delirium all through, or those in which there was coma, the conclusions appear to be in favour of the doctrines of phrenology.

I shall now proceed to make some remarks on the phenomena of organic life in cases of cerebral inflammation. In the first place, with respect to the tongue, we find that in simple arachnitis it is but slightly affected; there may be some trifling degree of foulness, or it may be quite clean and moist. You will observe the value of this, as connected with the diagnosis of irritation of

the brain from disease of the digestive system. There are many cases of irritation of the digestive system putting on the semblance of hydrocephalus to such a degree, as even to mislead an experienced practitioner. Now, if it be true that in simple arachnitis the tongue remains clean, it furnishes us with very material information, as, under such circumstances, our attention will be directed to the true seat of disease. Andral says, that in some cases of arachnitis he has found the tongue red, or dry or foul, but that at the same time there was disease of the digestive system. The majority of his cases, however, were simple, and exhibited no marks of an affection of the tongue or digestive system.

There is one more symptom on which I wish to offer a few observations, and that is the occurrence of vomiting in the hydrocephalus of children. In all cases where there is obstinate vomiting, particularly in children, you should have your suspicions roused, and look carefully to the state of the head. Vomiting is a symptom which occurs in many cases of arachnitis; in some it is slight, in others more constant, while in a third class it is harassing, incessant, and produced by swallowing the most unirritating substances. The nature of the fluid rejected from the stomach is various, being sometimes bilious, sometimes mucus, sometimes only consisting of what has been recently drunk. In some of these cases you will find the symptoms of incessant vomiting, unaccompanied by pain of the stomach, tenderness of the epigastrium, or any other sign of disease of the digestive system. I have even seen it coëxisting with a good appetite. Many persons have been lost by such cases, having been mistaken for disease of the digestive system, the practitioner being ignorant that vomiting was here only symptomatic of disease of the brain. No matter what the situation of the meningitis may be, it is now established that you may have vomiting as a common symptom. I recollect the case of a delicate child, about seven years of age, who laboured for some time under catarrhal fever, on the subsidence of which she got an attack of vomiting, which came on at different times in the day, but without head-ache, delirium, or intolerance of light. This vomiting continued from day to day; and, at the end of a week, the pupils became suddenly dilated, and coma set in, under which she died. There is one very remarkable circumstance connected with this subject, with which I am anxious you should be acquainted. *Where this incessant vomiting is present, you will have the other symptoms of meningitis more or less latent.* This illustrates a law before alluded to, that where the phenomena which are the result of sympathy with an affected organ are very prominent, those which characterize the disease of the organ itself are more or less latent. If we take the reverse of the former case, and consider a case of gastric disease, we know that the irritation of the stomach will produce violent cerebral symptoms, and that here also the same law is exemplified, for we shall have absence of pain, tenderness, and vomiting. The great value of this rule is, that a knowledge of it will put you, on your guard, and that the mere absence of the peculiar symptoms of an affection of an organ possessing extensive sympathies, should not lead you to conclude that there was no disease of that organ. In some remarkable cases of gastritis, the principal symptoms observed were convulsions and delirium; there was no vomiting or thirst, very little pain on pressure, and nothing remarkable in the condition of the tongue. The same latency of inflammatory disease is frequently seen in cases of delirium tremens.

With respect to respiration and the state of the pulse in meningitis, there is very little to be said. You may have meningeal inflammation with every variety of pulse, strong, weak, full, rapid, slow or intermittent. Generally speaking, the pulse is, towards the close of the disease, feeble and intermitting, but you may have the disease running through all its stages without any peculiarity in the character of the pulse. Respiration seems to be very little affected, and this would appear to favour the opinions of Sir Charles Bell. There is no doubt, at least, that the sympathy of the brain with the respiratory system is much weaker than with the digestive.—*Ibid*, July 12th, 1834.

16. *Case of Empyema and Pulmonary Tubercles, illustrative of the connexion between Tubercular Deposition and Chronic Inflammation.* By ROBERT CHRIS-TRISON, M. D.—The subject of the following case was a girl not quite six years of age, who was attacked with obscure pulmonary complaints consequent upon scarlet fever; exhibited in the course of two months all the successive phenomena of chronic pleurisy and empyema; and died in the course of two months more, partly from the latter disorder, partly from chronic peripneumony and tubercular effusion, after having twice undergone the operation of puncture of the chest.

The attack of scarlet fever seems to have been mild, but accompanied from the first by a cough, so slight, however, as not to attract particular notice for some time. In the course of a fortnight an attack of shivering ensued, followed by pain towards the left side of the sternum; by difficult breathing, palpitation, increased cough, frequent sweating, and scantiness of urine. Venesection was had recourse to, as also frequent blistering of the chest, and always with marked though temporary relief.

After being eight weeks ill subsequent to the attack of rigour, she came under the care of my colleague, Dr. Alison, and was found to present characteristically the symptoms of pleuritic effusion in the right side. The right side measured nearly three quarters of an inch more than the left in circumference; the intercostal spaces were more distinct in the left than in the right side; the left moved more than the right side during inspiration; over the whole right side, but particularly in the lower region, there was great dullness on percussion; and the heart beat at the extreme lateral region of the left side.

The left side too of the chest presented some signs of disease. Posteriorly the sound on percussion was clear; but anteriorly it was dull, even a little below the clavicles; and the respiratory murmur was altogether marked by very loud bronchial and tracheal râles. In the right side, it is worthy of remark, the sound of respiration was nowhere absent. It was distinct, but bronchial and much fainter than in the opposite side; so that there is no doubt the sound proceeded, as was inferred at this particular time, from the bronchial respiration of the left side transmitted through the accumulated fluid.

The constitutional symptoms were urgent, hectic being completely formed, and the child much emaciated, and constantly harassed by cough, with scanty, clear expectoration, great difficulty of breathing, and want of sleep.

Little advantage having been obtained from the use of expectorants, diuretics, and local applications, and the breathing becoming more and more difficult, it was thought advisable to try the chance afforded by puncture, although it was impossible to overlook the probability of the existence of some chronic disorder in the left lung, probably chronic peripneumony, with one or other of its sequelæ. Twenty ounces of pus were accordingly withdrawn by an aperture made in the lower part of the chest; and the aperture was closed by a compress and bandage. Considerable relief was presently obtained, the right side became of equal circumference with the left, and respiration could be heard in the upper fourth of the empyematic side. On the second day, the movements of that side during inspiration and expiration were decidedly improved, and the sound on percussion was pretty clear in the superior region. Matters, however, soon returned to their former state; the râles in the left side became louder and mingled with subcrepitating râle; the subcrepitating sound was also distinctly heard in the upper part of the right side; and the constitutional disturbance was manifestly much increased.

She came under my own care about the time when the symptoms were thus becoming aggravated. I determined to try again the effects of puncturing the chest; because, small as was my expectation of any permanent benefit, the girl evidently could not survive above a day without it. On the tenth day, then, after the first operation, it was repeated, and twenty ounces of a thinner pus were removed. After some temporary exhaustion she became for a day or two much easier, and could even assume the horizontal posture, which she

had been unable to do for some time previous. But the fluid again manifestly increased in quantity, the breathing became very laborious, she complained at length of pain, tenderness, and tension of the belly, and four days after the operation she expired.

The body was examined in thirty-six hours. On raising the sternum a quantity of air rushed out of the right side of the chest. In the upper fourth of the anterior part of the chest, the lung adhered to the pleura of the ribs, and there it was pervious to the air and crepitant. Below, however, it was retracted to the posterior, lateral parts of the chest, and to the diaphragm, and was firmly compressed, so that the greater part of it was not a fourth of an inch in thickness. The space left in consequence of its recession was partly filled with pus, together with about two ounces of coagulated blood, and partly with air. The entire *pleura* around the purulent cavity was thickly lined by old coagulable lymph in the form of a membrane, and the lung in consequence irrecoverably bound down. The pleural cavity of left side contained a pound of serous fluid with flakes of recent lymph, some of which adhered to the *pleura*. The *pericardium* presented a few spots of redness, and contained an ounce of slightly flocculent serum.

The left lung was universally and thickly studded with tubercles, many of them clear and miliary, many others opaque, few so large as a lentil. The upper part of the right lung, where not compressed, was in the same condition. Around these tubercular depositions there did not appear to be any trace of hepatization, or any of the other usual results of inflammatory action in the pulmonary tissue. None of the tubercular masses were softened. The condensed, flattened portion of the left lung was perfectly healthy, of a pale pink colour, of a spongy feel, though without any air, very dry, and wholly destitute of tubercular deposition. There were some small abscesses under the costal *pleura* of the right side. The bronchial tubes of the left lung presented much injection of the lining membrane, and an accumulation of viscous mucus in their interior.

There was no effusion in the cavity of the *abdomen*, and no redness or other disease of its serous membrane.

This case is of interest as illustrating two points. *In the first place*, it is a clear and unequivocal instance of tubercular deposition occurring in connexion with chronic inflammatory action. The deposition must have taken place subsequently to the compression of the lower portion of the right lung, otherwise it is impossible to conceive how it should have most minutely pervaded the whole pulmonary texture with the exception of that part alone which was compressed. Such being the fact, it follows that this matter was deposited during the prevalence of chronic inflammatory action, resulting in the gradual progress of the *empyema* and pleuritic disorder. And it is not too great a stretch of inference to conclude, that the facts of the case supply some additional corroboration of the opinion now gaining ground among pathologists, that tubercular effusion sometimes originates in chronic inflammation,—being one of its terminations in persons of unsound constitution, in like manner as serous infiltration and hepatization are the usual terminations in constitutions of a different kind. *In the second place*, the appearances illustrate very well the effect of uniform pressure on an internal organ in preventing the progress of disease in its texture. It cannot but be supposed that every part of the lungs had the same tendency to tubercular deposition, and that the complete absence of this appearance in the compressed portion was owing to the compression; otherwise why should the diffusion of the tubercular matter have been exactly circumscribed by the line marking the boundary where the lung was pressed upon and retracted? Are not the phenomena here parallel to the well-known action of pressure in checking and circumscribing some forms of inflammation in continuous textures on the surface of the body, such as in the skin and subcutaneous cellular tissue?—*Edinburgh Medical and Surgical Journal*, April, 1835,

17. *Rupture of Bladder not Immediately Fatal.*—The *Archives Gén.* for June, 1834, contains an example of this accident. The subject of the case was a man, thirty years of age, who in a quarrel was struck with the foot in the hypogastric region. Symptoms leading to suspicions of rupture of the bladder were manifested. On the introduction of the catheter but a small quantity of turbid urine was evacuated, and on pushing the point of the catheter in different directions, M. Dupuytren perceived that when directed towards the anterior-superior portion of the bladder, the instrument might be made to penetrate to an indefinite extent; and more urine was then evacuated. Leeches were applied to the pubic region, demulcent drinks in small quantities allowed, and rigid diet ordered. Under these measures the inflammation seemed to be circumscribed to the neighbourhood of the bladder, and the violence of the symptoms controlled. But about the sixth day the patient disobeyed the instructions respecting diet, and even drank wine, and on the seventh day he died. On examination there were found cellular bands, which formed a second sac, posterior to the bladder, and containing a turbid fluid, of an urinous odour, and mixed with albuminous flocculi. There was also a rupture of the bladder, two inches in extent, at its posterior portion. It was the opinion of M. Dupuytren and those who examined the subject, on witnessing the admirable efforts made by nature to supply the bladder, that the death of the patient was rather owing to his imprudence in diet than to the rupture of the bladder.

18. *Obstinate Constipation.*—An example of this, which lasted thirty-nine days, is recorded in *L'Abeille Belge*. After resisting a variety of purgatives, the constipation yielded on the thirty-ninth day, and from this period all the symptoms produced by it disappeared.

MATERIA MEDICA AND PHARMACY.

19. *Preparation of the Ioduret and Hydriodate of Iron.*—Every practitioner who has employed these valuable preparations must have had ample proof of their mutable qualities and of the readiness with which they become decomposed; the following directions by Dr. A. T. Thomson, for their preparation and preservation, will therefore be useful, especially to country physicians.

Precautions necessary in the preparation of the Ioduret and the Hydriodate.—One part of the iron wire should be rubbed in a porcelain or a Wedgwood's mortar, with about three or four parts of iodine, gradually adding distilled water, until fifteen parts of the fluid shall have been used: the whole is then to be introduced into a Florence flask, with an additional portion of iron wire, and of distilled water. This excess of iron is a matter of indifference in the preparation of the hydriodate; and, in that of the ioduret, it is necessary for preserving the combination from decomposition, during the evaporation of the solution. These materials are next to be boiled together, until the fluid acquire a pale greenish colour, when it should be filtered. This solution contains a hydriodate of the protoxide of iron; and, if the exact quantity of the iodine be previously ascertained, so as to enable us to procure the solution of a definite strength, it may be kept in this state for medicinal use. In general, however, the solution is evaporated to dryness: and for this purpose it may be poured into a clean flask, containing a piece of iron wire sufficiently long to reach from the bottom to the surface of the fluid, and the boiling should be continued until the bulk of the solution be reduced to one-third. It must then be filtered; after which the evaporation should be continued to dryness. It is necessary to break the flask as soon as the mass is cold, in order to obtain the solid ioduret, which should be immediately transferred to a dry bottle, fitted with an accurately ground stopper. The bottle should not hold more than two ounces of the preparation; for, when it is large and not full, the ioduret

deliquesces nearly as rapidly as when it is exposed to the free action of the atmosphere. When the flask is broken and the ioduret bottled before the mass is cold, deliquescence also takes place; a peroxide of the metal is formed, and iodine is evolved.

Precautions necessary for preserving both Preparations.—The ioduret requires to be well secured from the influence of the atmosphere; both on account of its deliquescent property, the rapid oxydizement which the iron undergoes when deliquescence occurs, and the consequent decomposition which takes place. It is important to prevent this state of things, as the peroxide of iron is inert as a medicinal agent; whilst the free iodine, extricated during its formation, alters altogether the virtues of the medicine. This partial decomposition of the ioduret is rendered immediately apparent, on dissolving it in twenty times its weight of distilled water and filtering; instead of a permanent, clear, very pale greenish yellow, we obtain an ochre-coloured or brown solution, which soon becomes turbid, and gradually deposits an ochre-coloured completely insoluble precipitate. Much of the ioduret usually prepared both by many chemists and druggists, and also general practitioners, is of this description; and to this we may refer some of the disappointment and discrepancy of opinion of different practitioners respecting the operation of the medicine in similar cases. Even when the ioduret has been carefully prepared, and is good of its kind, it often contains a little free iodine; but it is chiefly owing to the carelessness of assistants and apprentices, in compounding prescriptions, by frequently exposing the ioduret to the air, that its properties, and consequently its medicinal powers, are impaired; hence, it is preferable to keep it in solution, or in the state of the hydriodate.

If the solution be prepared with a definite quantity of iodine, as already described, it will keep without changing its characters; but, as it is usually made by dissolving the ioduret in distilled water, it requires to be rendered neutral by the following means. Introduce into a flask, the solution of any given strength, and place in it two or three doubles of clean soft iron wire, sufficiently long to extend to the surface of the fluid; boil it for a few minutes, and then leave it at rest until the solution becomes clear, after which it may be either decanted off from the precipitate which forms, or filtered: no farther change takes place in a solution thus treated if it be kept in a blackened or a green bottle, however long it may be preserved. In this process, the wire affords iron to saturate any free iodine present in the solution, or that may have been extricated by the formation of the peroxide of iron in the ioduret; and a perfectly neutral solution being thus obtained, by the immediate conversion of the new formed ioduret into the hydriodate of the protoxide, no subsequent change takes place so long as the solution is kept secluded from the light. It is not easy to explain this influence of light in decomposing the solution of the hydriodate of iron; but several other of the metallic hydriodates are affected in the same manner by light. The best proportions for forming the medicinal solution are three grains of the dry solid ioduret to each fluid drachm of distilled water. If the water be not either distilled, or filtered rain water, perfectly free from foreign ingredients, particularly if it contain any earthy or saline carbonates, decomposition instantly takes place, iodine is extricated, and a carbonate of iron, which rapidly passes into the state of the peroxide of that metal, is precipitated.

20. *Physiological Effects of Hydriodate of Iron.*—Dr. THOMSON, from experiments on his own person, states the following to be the physiological effects of the hydriodate of iron.

“When taken in doses of from three to five grains, the hydriodate of iron makes no sensible impression on the stomach, although it sharpens the appetite and improves the digestive function; it seems to stimulate moderately the intestinal canal through its entire length, as it opens the bowels; and whilst it produces the black colour of the alvine discharges characteristic of all the pre-

parations of iron, it corrects their factor. When it does not affect the bowels, it augments the action of the kidneys, increasing the flow of urine; and if the solution be taken two or three times a-day, for several days successively, the presence of both the iodine and the iron can be readily detected in the urine. The temperature of the skin is moderately elevated, and the insensible perspiration increased. On one occasion, having taken ten grains for a dose, it almost immediately caused an uneasy sensation at the epigastrium, accompanied with nausea that continued for several hours; and a slight degree of head-ache. These symptoms were relieved by a copious stool, which was perfectly black. Two hours after swallowing the medicine, a large quantity of urine was discharged; and on being tested, it displayed the presence of both the iodine and the iron."

21. *Corrector of Opium*.—According to M. PUCHELT, a German physician, the sulphate of soda is an excellent corrector of the unpleasant effects of opium, given in the proportion of a scruple to half a grain of opium. This dose may be repeated two or three times a day. In combination with Glauber's salt, opium, he says, may be administered in cases where slight plethora, local or general, prevents recourse being had to opium alone. In obstinate hæmorrhages principally, this mixture will produce the happiest effects. But if sulphate of soda prevents the congestion which opium sometimes produces, M. Puchelt says that there is another article which corrects its narcotic, without diminishing its sedative effects—this is the castor. The combination of opium and castor he considers very useful in cases of hysteria.—*Lond. Med. and Surg. Journ. May 30th, 1835.*

PRACTICE OF MEDICINE.

22. *Treatment of Hydrocephalus*. By WILLIAM STOKES, M. D.—The old idea of this affection was, that it was a species of dropsy, depending on a relaxed state of the cerebral vessels, and hence the term hydrocephalus. Modern pathology has shown that the occurrence of serous effusion is a mere accidental circumstance, as it is present in one case of arachnitis, and absent in another. When it does occur, however, *it is the result of inflammatory disease*, and it is to the prevention and cure of this, that the practitioner must direct his attention. With the symptoms of this disease, I shall not take up your time, as you will find them sufficiently detailed in books; but with respect to treatment, I shall say that hydrocephalus is a disease *much more* under the influence of treatment than persons generally think. It is said that, when once effusion has taken place, the case is hopeless, and nothing can be done. This remark appears to me to be unnecessary, for there is no symptom from which you can venture to assert that *effusion* has set in. You may, from the inflammatory state of the brain, have delirium, coma, deafness, blindness, and paralysis, without any effusion of serum, and in many cases life has been saved, even after the appearance of all these symptoms.

This term *effusion* is one of the bugbears of medicine. Many patients are lost from the prevalence of false ideas connected with this subject; for as soon as *effusion* is supposed to have set in, the efforts of the practitioner are given up. Hundreds of patients die of bronchitis and pneumonia, in whom life might be saved if the symptoms of *effusion* had been treated for those of inflammation; and so it is with respect to the brain. The effusion is not the disease; it is not even a constant result of the disease. We have no certain means of ascertaining its existence; and we know, that, by a persistence in antiphlogistic treatment, life may be often saved, even after all the supposed symptoms have occurred.

Gentlemen, take this with you as a rule in medicine,—always to keep your eye more upon the causes than the effects of disease.

The treatment of hydrocephalus in the child should always be active, and conducted on the same principles as those of general encephalitis in the adult. Shaving the head, bleeding when practicable, *repeated leeching*, *cold affusion*, *calomel*, and *purgatives*,—these are the great measures upon which we are to rely for success. It is satisfactory too to reflect, that many cases have been saved by the prompt and steady adoption of this simple mode of treatment.

Of Internal Remedies.—The use of mercury seems to be that on which you should most rely. Some of the most singular recoveries have occurred after ptyalism has been produced. Let me remind you, however, that the rules connected with this mode of treatment, which I pointed out in speaking of hepatitis, apply equally in this case.

In the treatment of this affection, it is of the utmost consequence to attend to the position of the patient. By keeping him as much as possible upright, or by preventing him leaning constantly on one side, we do much to prevent the occurrence of the ulceration of the angle of the mouth.

As far as I can see, hydrocephalus, when taken in time, is a very manageable disease; and there is only one case in which it is difficult to treat, and that is where the cerebral affection is accompanied by symptoms of gastro-enteric disease. In several cases of hydrocephalus, this complication certainly exists; and you have first symptoms of disease of the digestive tube, and then of the head. Such cases as these are involved in great difficulty, and in their treatment you run the hazard of falling into a twofold mistake. The first is your acting on the supposition that the disease of the head is only sympathetic, and that it will subside as soon as the abdominal symptoms are removed; the other is occupying your attention exclusively with the head. Now there is one rule with respect to this, which I think will serve to guide you through many difficulties, *and this is, never to neglect the head*. Though you have first an affection of the digestive system, and then of the head, it is better, (even though the symptoms of the latter still continue,) to pay attention to the head. You can do this at the same time that you are attentive to the condition of the digestive organs. Another rule is, that the cases of disease in which the purgative plan does not answer are generally those in which there is primary inflammation of the digestive tube. Dr. Cheyne, in speaking of the treatment of hydrocephalus, says, that some cases are benefited by purgatives, others not; and that the latter are those in which there is disease of the intestinal canal. In such cases you will not irritate the bowels, or add to the existing inflammation by purgatives. Let the bowels be kept open by enemata, and direct your attention immediately to the head. Children with largely developed heads, and of a strumous diathesis, are very subject to this disease; and I feel convinced that the present rage for the early mental education of children has a strong tendency to produce it in subjects of this description. I believe there are many cases of fatal hydrocephalus, from which the poor victims would have escaped, but for the pernicious efforts of the parents to make them literary prodigies. I have observed many cases of this kind among the children of persons who, having been originally situated in an humble sphere, and deprived of the benefits of education, accumulate wealth, and then, feeling in their new condition the want of education, are anxious to communicate it to their offspring; and with that view have them educated with too much care and from too early a period. The child is constantly kept at his books, his little mind is perpetually tasked, a degree of cerebral excitement is kept up, and while he is delighting his gratified parents with the manifestations of a precocious intellect, his health is neglected, and the seeds of disease are insensibly sown. One of the most ordinary consequences of this early application of the mental powers is hydrocephalus. These little creatures, too, have a congenital disposition to disease of the brain, for they have generally large heads. Such cases are examples of the results of an arrest of development. A relative condition of head exists similar to that which occurs during fetal life, and this is always accompanied by a remarkable susceptibility to inflammation. This peculiar development of head also produces

a precocious state of intellect, which is increased by the pernicious habit of obliging children to study at too early an age. Where you meet with children suffering under these circumstances, you will not discharge your duty properly if you do not point out to the parents the mischievous tendency of their conduct. In such cases as these it may be justly said that ignorance is bliss.—*Lond. Med. and Surg. Journ. July 12th, 1835.*

23. *Mercurial Cancrum Oris.* By WILLIAM STOKES, M. D.—There is a terrible consequence of mercurial action in the lymphatic temperament, with which you should be acquainted,—I allude to a violent and destructive inflammation of the soft parts of the mouth and face, which has got the name of the *mercurial cancrum oris*. An œdematous inflammation of the cheeks, lips, and tongue, takes place, and, if not checked, rapidly runs on to extensive ulceration. I have seen one cheek, half of the nose, the lower eyelid, and the opposite angles of the mouth, utterly destroyed, in a case where but five grains of calomel were used. This drawing represents the disease, after a frightful perforation of the cheek. In this case the quantity used was nine grains. I have seen the disease from the use of so small a quantity as a grain and a half of calomel! These facts show that there is a state of the constitution in which a minute dose of calomel may have terrible effects. The same, too, may arise from the external use of mercury. I recollect the case of a young woman in the Meath Hospital, whose head was rubbed with *one droehm* only of mercurial ointment, for the purpose of destroying vermin. She was attacked, and with difficulty saved.

The disease may also come on suddenly in a patient who has been for some time using mercury in considerable doses; but this is the rarest case.

You recognise this disease by the sudden supervention of great swelling of the lips and cheeks, so as to completely alter the expression. The tongue is also swollen. All these parts are hot and tender to pressure. The breath is fœtid, and the internal surface of the mouth excoriated, and often covered here and there with patches of lymph. At other times we have a circumscribed œdematous swelling, occupying the centre of the cheek, which runs on to ulceration; but most commonly the ulceration of the external parts begins at the depending angle of the mouth.

Gentlemen, in a case of this kind, if you are called before ulceration has taken place, I believe you can often save your patient, and prevent destruction of the face. Treat the disease as a violent inflammation. Use repeated leeching, poulticing, and the warm bath. *While you do this, you must keep up your patient's strength by light nourishment and wine.* Apply to the internal ulcerations the *mel æraginis*, the nitrate of silver, or the chloride of soda. I have now saved many cases by bold and repeated leeching. I remember one case of a man in which ninety leeches were used; he recovered perfectly.—*Ibid.*

24. *Treatment of Apoplexy.* By WILLIAM STOKES, M. D.—I shall endeavour to get through the treatment of apoplexy as briefly as the important nature of the subject will admit. I shall commence by saying, in the words of Dr. Abercrombie, that the remedies for apoplexy are few and simple. The great point is to relieve the head from the accumulation of blood, to prevent farther congestion, and to obviate inflammatory action; and for these purposes the only efficient means we possess is bleeding. There is no disease in which the efficacy of free and bold depletion by the lancet is more remarkable than in apoplexy. I agree completely with Dr. Abercrombie in thinking that the symptoms which denote serous apoplexy by no means contra-indicate the use of the lancet; for I have already shown, that serous apoplexy was nothing but congestion, that the serous effusion was one of the consequences of this congestion, and by no means the cause of the apoplectic symptoms. Dr. Abercrombie thinks that, in the commencement of the disease you may bleed where the pulse is feeble as well as where it is strong and full, and gives many important

cases in which the disease yielded to a copious abstraction of blood, though the state of the patient's pulse and general system at the time were such as would deter many from bleeding. He gives three cases of persons about seventy years of age, on whom this mode of treatment was practised with success, and another of a person of spare habit, aged eighty years, whose life was saved by a bold and timely use of the lancet. There is also another case detailed of a patient who was worn down and dropsical at the time of the attack, and received considerable relief from bleeding. I do not wish you to conclude from this, that you should bleed as boldly in the one case as in another; what I wish to impress on you is this, that in the vast majority of cases it is advisable to have recourse to the lancet. With respect to the first bleeding, I think that where the pulse is full and strong it should be large, and such as will produce some effect on the symptoms. This may be repeated afterwards to a smaller amount if necessary; but the subsequent bleedings should be rather local than general, except where there is any renewal of the cerebral and circulatory excitement, which must be always met with activity. I believe the cases in which you must make the largest bleedings are those in which there are symptoms of an hypertrophied heart. But where this is not present, one or two bold bleedings, followed by local depletion of the head, will be sufficient. In cases of apoplexy, you may either open a vein or the temporal artery, for the objections made to arteriotomy in phrenitis do not apply so much to cases of apoplexy. There is no violence on the part of the patient, nor is there the same chance of the vessel giving way. The head should be shaved and freely leeches, and the patient may be cupped on the temples or the back of the neck.

Next in efficacy to general and local bleeding seems to be the administration of strong purgatives. There are many cases on record, in which the coma and other symptoms have resisted bleeding, both general and local, but have disappeared under the influence of active purgation. One of the great objects in the treatment of apoplexy should be to get rid of the coma as soon as possible; and for this purpose nothing appears to answer better than the early use of brisk purgatives. Dr. Abercrombie recommends croton oil as the best purgative that can be employed, and indeed it is an excellent one; but if the patient can swallow, you need not be very anxious about the kind of purgative you prescribe; any active purgative followed by a strong enema will do. Where the patient cannot swallow, you may mix the dose of croton oil with some mucilage, and pass it into the œsophagus by means of a gum elastic tube.

After purgation, the next thing is to apply cold to the head by means of cold lotions, or iced water, or by pouring a stream of cold water on the head. This is a measure of great efficacy, and one which you may employ with safety and advantage.

In cases of apoplexy, where the coma has resisted free bleeding, both general and local, and where purgation and cold applications to the head have been employed without any decided effect, it seems advisable to apply a blister to the head or nape of the neck. You will recollect that I told you that blisters were always dangerous in the early periods of all acute visceral inflammations. This, however, does not apply so much to cases of hæmorrhagic effusion like apoplexy, in which blisters may be employed at an earlier period than in cases of active inflammation. I would advise you, therefore, to use blisters in cases of apoplexy attended by persistent coma, having first put into practice the means already mentioned.

Many persons advise the use of emetics in apoplexy, but the facts bearing on this point, to which I have drawn your attention when speaking of inflammation of the brain, will also apply here. You may take it as a general rule, that where congestion of the head exists, vomiting will always increase it, and must be therefore exceedingly dangerous. As far as theory goes it is totally against this practice, and I believe experience also is opposed to it. In a number of cases of disease of the brain, where emetics were employed, it has been found that

an unfavourable result had ensued, and there are some cases of apoplexy on record in which the exciting cause was a fit of vomiting.

Suppose that, after having taken away blood, purged actively, used cold applications, and blistered the head, the coma still remains, accompanied by a feeble pulse and cold skin, what are you to do? I believe, under these circumstances and these alone, you may venture on the use of internal stimulants. Though this is at best but a forlorn hope, still the practice appears rational; we have analogy to guide us in the use of stimulants in such cases, and there are cases on record of persons who have recovered from this state by their judicious employment. The remedies most generally prescribed for this purpose are camphor, musk, and carbonate of ammonia. In the cases of typhus, we know that these remedies have frequently succeeded in removing the coma; but I repeat that you should never have recourse to stimulants until the period for depletion has passed by, and all the ordinary means have failed.

I shall now suppose that we have succeeded in removing the coma, that consciousness has returned, and that nothing remains but paralysis of one side. Our great object is to get rid of the paralysis as soon as possible. Here you will recollect, that you have to deal with paralysis depending on extravasation, a paralysis which, as far as we know, will not disappear under any form of treatment until the extravasated blood has been absorbed. The first thing then you have to do is to adopt measures to prevent a return of the attack. This is to be effected by carefully restricting the patient in his diet, by avoiding all causes of cerebral irritation, whether physical or moral, and by obviating every thing capable of exciting the circulation. But you should not be content with this; you should, from time to time, employ local depletion, which in cases of this kind has a double utility. It tends to prevent a repetition of the attack, and, by lowering the circulation, keeps the brain in that non-inflammatory condition, which is most favourable towards promoting the absorption of the coagulum. In many cases, also, you will find it of great advantage to establish a drain in the vicinity of the disease, and a great deal of good may be done by putting a seton, or an issue, in the neck. You must also pay constant attention to the state of the bowels and urinary system in cases of paralysis; keeping up a steady but mild action of the bowels has an excellent effect, and I need not impress upon you the necessity of paying strict attention to the bladder.—*Ibid*, Aug. 9th, 1834.

25. *Treatment of Paralysis consequent on Apoplexy.* By WILLIAM STOKES, M. D.—The paralysis, which supervenes on an attack of apoplexy, is to be treated always in the first place by means directed to the head, and the brain is to be put in such a state as will favour the removal of the clot by the means already recommended; in addition to which it will be necessary that the body and extremities should be kept in a warm temperature. But there is this very singular circumstance connected with some cases of paralysis, that a period will arrive when, although the original disease of the brain has been removed, and the clot absorbed, the paralysis still continues. It is not easy to explain this circumstance, but it has been observed in many persons, who have been paralytic, that the clot was completely absorbed, and no existing trace of disease discoverable, such as would account for the continuance of the paralysis. In cases like this, we must adopt a different mode of practice, and have recourse to measures capable of exciting the brain, and we have reason to believe, that whatever will excite the brain and restore its energy, (I must use this phrase for want of a better,) will cure the paralysis. We find that, in some cases, where the brain of a patient, under such circumstances, has been exposed to any sudden stimulus, whether physical or moral, the symptoms of paralysis have disappeared, sometimes gradually and slowly, at other times rapidly and at once. Now, this disappearance of the symptoms shows that the paralysis did not then depend on the presence of a clot, for if an unabsorbed coagulum remained in the situation of the original extravasation, the paralysis would not disappear. But it has been

frequently observed, that a patient, labouring under paralysis, may get rid of his symptoms suddenly, or that, at a certain period, they begin to decline, and then go away altogether. From a consideration of these circumstances we are led to divide the treatment of paralysis of this description into two parts, and endeavour first to excite the brain itself and next the nerves, which supply the paralyzed limbs. For this purpose several remedies, supposed to be capable of stimulating the brain, so far as its action on the muscular system is concerned, have been recommended, the most important of which is the *nux vomica*, or its active principle, strychnine. The researches and experiments of modern medicine have already established the efficacy of strychnine in such cases, but you will recollect, as I before stated, that this powerful remedy can be employed with safety only in cases where the paralysis continues after the disappearance of organic disease of the brain. Until that period arrives, and all symptoms of congestion and excitement are removed, it would be improper to prescribe the use of strychnine. One of the most recent publications on this subject is from the pen of Dr. Bardsley, of Manchester, in which you will find an exceedingly interesting series of cases treated with strychnine, and many of them with the most decided success. In most of these cases, you will find that Dr. Bardsley, even where the disease has been of some standing, *precedes the use of strychnine by measures calculated to deplete the head*, even though the cases were chronic. Hence, whenever you are about to prescribe this remedy, you should be satisfied that depletion has been sufficiently performed. You may be called to treat a patient for paralysis after an apoplectic attack. Here you must consider how far you are to premise the use of strychnine by depleting measures, and you must also reflect that we here have shadowed out one of the most important principles in medicine, *that in almost all cases where a cure is to be attained by stimulation, it will be effected more readily, and with much more certainty, when preceded by local depletion, no matter how long the disease may have lasted*. The efficacy of strychnine in paralysis seems to be dependent on the antecedence of local or general depletion.

Strychnine being an exceedingly active remedy, and having a most powerful effect in stimulating the brain, it being also one of the accumulative class of medicines, it will be proper to commence its exhibition with a very small dose, and watch its effects with care. The following is the formula which I would recommend you to employ. You take a grain of strychnine, and your object being to divide it into a number of equal parts, (say sixteen,) to ensure an accurate division, you dissolve it in a small quantity of alcohol, and having mixed this solution with a sufficient quantity of bread crumb or conserve of roses, you divide it carefully into sixteen equal pills. In this way you may be tolerably certain that each pill contains one-sixteenth of a grain. Begin at first with one pill a-day, next day you may give two, and so on until you have brought it up to half a grain or a grain, watching carefully its effects. Now, what are these effects? They are very analogous to the phenomena produced by inflammation of the brain taking place in the vicinity of the clot; namely, spasms of the muscular system.

It is also a curious fact, that these spasms are principally observed on the paralyzed side; in other words, that the portion of the brain which has been affected by disease is more sensible to the stimulus of the strychnine, the consequence of which is spasmodic twitches in the paralyzed limbs. The great nicety of practice in the treatment of paralysis in this way, is to keep up a certain degree of this irritation without letting it proceed to any degree of violence, and to omit it whenever the following symptoms become manifest,—head-ache, giddiness, weakness and sickness of stomach, and too violent spasmodic twitches of the limbs.

There is a great difference with respect to susceptibility of the effects of this remedy in different individuals; in some the effects speedily appear, and you are obliged to intermit its use; others will bear large doses for a considerable time, and you may push the strychnine until a grain or a grain and a half is

taken in the day. I have myself given to one patient a grain every day for the space of a fortnight without any intermission. In all cases, however, it will be necessary to watch the symptoms. There is one effect of strychnine which appears to be unfavourable, and whenever it occurs you should either omit the medicine or diminish the dose. Along with or succeeding the spasms, *there is a tonic rigidity of the limbs*; when this occurs you should be cautious in the administration of strychnine. The length of time which it should be continued will of course vary according to circumstances, but you should be aware that it requires a considerable period of time to produce its effects. In all Dr. Bardsley's cases, and in all those treated at the Meath Hospital, it has been continued for a considerable time, certainly more than a month. It is also necessary for you to recollect that strychnine is one of those medicines which are termed accumulative; that is to say, remedies, the operation of which, after remaining latent for some time, suddenly explodes with great violence. When this occurs, the strychnine must be immediately given up, and steps taken to controul its effects. One of the best things for this purpose is the carbonate of ammonia with some mild anodyne. I have seen very severe spasms from the use of this medicine. In one case these spasms were so violent as to roll the patient nearly out of bed.

It has been proposed to employ brucine as a substitute for strychnine. Of this remedy I can say but very little; I have given it but very seldom, I believe only in two cases, and in these without any sensible effect. It is much weaker than the former remedy, one-fourth of a grain of strychnine being equal to six grains of brucine. Other remedies have been proposed for the same purpose, among the rest, iodine, which has been recommended by Dr. Mansfield.

We now come to the local management of the disease, or that portion of its treatment which consists in the application of stimulants to the nerves and their origins. Local stimulation of paralytic limbs may be performed in a variety of ways; all the usual stimulant embrocations may be employed for this purpose with the best effects. I shall not take up your time in detailing the different kinds of liniments which are used on such occasions; they are universally known, and may be varied *ad infinitum*. The flesh brush, the shower-bath, either tepid or cold, occasional blisters to the spine, or along the course of the nerves, croton oil and terebinthinate frictions,—all these are measures that may be employed with advantage. The use of the moxa has been also strongly recommended, and appears to be decidedly beneficial. The efficacy of all these remedies, however, seems to depend chiefly on the particular stage and nature of the disease, and hence their good effects are most apparent in those cases where the paralysis no longer depends on organic disease of the brain, but seems to be connected with that peculiar state of the nervous system which arises from a long interruption of the power of transmitting volition. It is in cases like this, that the application of the moxa has been found to produce the most favourable results. Where the lower extremities are affected, it may be applied over the sciatic nerve on the loins, or a little below and to the outer side of the popliteal space over the track of the peroneal nerve. In case of paralysis of the upper extremity, you may apply it to the back of the neck, or in the neighbourhood of the brachial plexus.

A gentleman, who does me the honour of attending these lectures, has related to me the particulars of a remarkable case, which I shall mention *en passant*. A young female was subject to repeated violent attacks of spasms with contraction in one of the upper extremities. She had laboured under this affection for a long time, and tried various remedies without benefit. At the suggestion of this gentleman she tried cupping in the neighbourhood of the shoulder and brachial plexus, and found that it produced decided relief to the symptoms. In this case it is highly probable that the disease was seated in the brachial plexus, and had no connexion with the brain, for it had continued for a great length of time, (more than three years, I believe,) without any remarkable variation in its symptoms. If the spasms of the arm had been produced by irritation of the

brain, she would in all probability have had paralysis long before this period; this, however, did not occur, and the probability that the disease was seated in the brachial plexus is still farther confirmed by the fact, that the spasms were relieved by local bleedings. Here we have the spasms relieved by antiphlogistic means, but in a case of atony of the same nerves, most benefit would be derived from the use of stimulants. The more completely the paralysis is of this description, the more sure will be the effects of local stimulation. You will sometimes meet with cases of paralysis from pressure on the nerves without organic disease. Thus there is a case on record, of a person who lost the use of one of his upper extremities, from having leant too long over a bench at a public meeting. I recollect the case of a man, who during a fit of intoxication fell asleep with his arm thrown over the back of a chair, and awoke with perfect paralysis of the hand. Cases like these are seldom of long duration, and are much improved by the application of the moxa. I may state, however, that permanent paralysis has been induced in this way. The best way of using the moxa is, not to make a deep eschar, but to touch the parts slightly, and repeat the application frequently. In the case of paralysis of the hand, immediate relief followed the use of the moxa to the back of the wrist.

While on the subject, I may advise you always to employ the moxa in the mode first, I believe, devised by my friend and colleague, Professor M'Namara. The top of the moxa is to be dipped in a strong solution of the oxymuriate of potass, which is to be allowed to dry upon it. The moxa being fixed to the part by a little gum, a drop of strong sulphuric acid will produce immediate ignition. In this way you prevent all the alarm which the patient feels at seeing a lighted candle brought to the bed-side. The same rule is to be observed when you employ electricity, the best mode of using which is to place the patient on an insulated stool, and draw sparks from, or shocks through, the affected limbs. Electricity frequently does much good in such cases; but in order to obtain decided benefit from it, you must persevere for some time in its employment. It has been lately proposed to employ the stimulus of electricity and galvanism in a different way, by transmitting it directly to the muscles of the affected limbs by means of needles, which are to be inserted into different parts of paralyzed extremities, and which are intended to act as conductors for transmitting the galvanic influence. This has been termed *electro or galvanic puncturation*, and forms an excellent mode of applying the stimulus of galvanism. I have made many experiments as to its effects, to which I shall briefly direct your attention.

The first thing to be considered is the manner of its application. The following is that which I use at the Meath Hospital:—Having procured two fine sewing needles, your first step will be to take the temper out of them; for, if you employ them in the tempered state, you will run the risk of their breaking in the flesh, and this would be very disagreeable. You can easily take the temper out of them by holding them in a candle until they become red hot, and then letting them cool gradually. The next thing is to place a head which will remain firm on the needle, and for this purpose you pass a small portion of thread through the eye, and then cover it with a bit of melted sealing wax. Having thus formed a head for the needle, you sharpen its point, and polish it by the emery pincushion, and the sharper it is the better. There is nothing more simple than to introduce the needles. You make the part of the skin tense with your finger and thumb, where you intend to introduce them, and placing the point of the needle perpendicularly on it, you press it downwards in a slanting direction, using, at the same time, a rotatory motion, and thus easily pass it in; when you have pierced the skin and fascia, there is no difficulty in introducing it into the muscular fibres. The distance between the needles must be regulated according to circumstances. You then proceed to send the galvanic fluid to the part, and for this purpose, the best mode is to employ a small galvanic battery with a limited number of plates. If you have plates of from two to three square inches you will find that from fifteen to twenty of these, in a state of ordinary

action, will be quite sufficient, particularly in the commencement of the treatment. It is a curious fact, that the intensity of the shock is increased to an extraordinary degree by means of the needles. A battery which, in the usual manner, would not communicate any shock, will, when used with the needles, give a violent one, and communicate such a stimulus to the nerves as will throw the whole limb into violent spasms, and cause a copious perspiration to break out over the body. I have seen very great effects from a feeble battery in this way, and it would appear that this is the result of the *direct* transmission of the galvanic influence to the muscular fibre. In most cases a perspiration is brought on, the limb convulsed, and sometimes the whole body is thrown into spasms. As an illustration of the power of the battery when used in this way, I shall mention the following case:—A patient, who was under the care of Mr. Hamilton, laboured under amauroses; he was anxious to try the effect of galvanism, and with this view inserted one needle in the upper part of the back of the neck, and another over the orbit, so as to direct the trajèt of the fluid across the base of the brain. He intended at first to use a small battery of twenty-five plates, but it struck him that even twenty-five might be too much. He made the experiment with three pairs of plates, and the shock being given, the patient, to his astonishment, fell back as if he had been stunned by a violent blow on the head, and remained for nearly a minute in a state of insensibility. In other cases too, where the galvanism was applied in the vicinity of the head, I have found that severe head-ache, giddiness, and even a stiffness of the muscles of the face, were produced; all showing its powerful action on the nervous centre.

Some singular circumstances, connected with this subject, were observed in the Meath Hospital. It was found that after a certain number of shocks had been communicated to the parts, when you came to withdraw the needles, there was a very remarkable difference in the ease of removing them. The needle through which the positive galvanic influence had been transmitted, was found to be strongly fastened in its situation, while that, to which the negative pole had been applied, slipped out with the greatest ease. This result was constant. In some cases, where half a dozen shocks or so have been given, the extraction of the positive needle has been only accomplished with considerable pain to the patient.

It has been suggested by a distinguished scientific friend of mine, that this results from the coagulation of albumen at the positive pole. Mr. Hamilton, however, who performed most of the operations for me, thinks that the true explanation is the paralyzing effect of the negative pole on the muscular fibre, while the positive needle is firmly grasped by the increased contraction. Farther researches are necessary on this point. Another fact connected with this subject is, that when the needles have been inserted into a large muscular mass, the positive needle is powerfully retracted, and carried, as it were, into the muscles. In one case, where the needle was inserted into the lumbar muscles, in a patient labouring under sciatica, more than one-twelfth of an inch of it was drawn in at each shock; so that, after a certain number of shocks, it passed up to the head. This is one reason for using the sealing wax head, in order to prevent the complete passing in of the needle.

With respect to our experience of the value of this mode of employing electricity or galvanism, I have to remark that, if galvanism or electricity can be of any use to paralyzed limbs, this is one of the best modes in which it can be applied. The apparatus is simple, can be prepared in a moment, and does not depend on the state of the weather, like the ordinary electrical machines. There is another advantage, also, it is not so likely to excite alarm in the mind of the patient. We have employed it in several rheumatic and paralytic cases in the Meath Hospital, but have not as yet been able to say that decided benefit has accrued from it to the majority of the patients on whom it has been tried. This is more particularly true with respect to paralytic patients; in the rheumatic cases we have found it more beneficial. In a remarkable case, where the deltoid muscle was paralyzed and atrophied from some affection of its nerves, Mr.

Hamilton tried it for a fortnight without any good effects. In a case of senile amaurosis, its effect was to produce flashes of light before the eyes, lachrymation, and contraction of the pupil, but, after a fortnight's trial, there was no improvement in the sight. We have had, however, distinct and unequivocal proofs of its value in one case of paralysis of the muscles of the face, which had all the characters of that described by Sir C. Bell, as resulting from an affection of the seventh pair of nerves. This patient had been for a long time labouring under an affection of one side of the face, and had used a variety of remedies. Those principally employed were stimulating liniments and the internal use of strychnine, from which he derived some slight benefit; but the application of the galvanic fluid, in the way I have mentioned, was followed by decided and rapid improvement. Indeed, from the time it was first applied, the patient recovered rapidly, so that in a very short time all the deformity of face disappeared. Now the value of the application is to be estimated in this way. Here we have a case of paralysis of a local nature, and not depending upon any disease of the brain; in this case the galvano-puncturation was tried, and found to be most beneficial. The conclusion, then, as far as a single case goes, is that this mode of treatment is best adapted to the form of paralysis just mentioned, in which we find an affection of some of the muscles remaining after the original disease of the brain has been removed. The same observation, I need not tell you, applies to all other remedies which are employed for the purpose of local stimulation.—*Ibid*, August 9th and September 6th, 1834.

26. *Treatment of Paralysis from disease of the Arterial System.* By WILLIAM STOKES, M. D.—With respect to the treatment of paralysis, if the patient be young, and the disease recognised at an early stage, it is possible that you may be able to arrest it by free local depletion, and other antiphlogistic means. In the case which was under treatment in the Meath Hospital, the symptoms had lasted for a considerable time before the disease exhibited any remarkable violence. The man was admitted on the 7th of February, and at this time the disease had been five weeks in existence, having begun at the lower part of the limb, and extended gradually upwards, until it involved the whole leg and thigh. Yet it is very probable that this patient might have been saved, if proper means had been taken to arrest the inflammation of the vessels at an early period. Baron Dupuytren has published a case, in which it appeared that this disease was setting in, but was checked at once by bold antiphlogistic treatment directed to the affected limb.—*Ibid*, September 6th, 1834.

27. *On the Employment of Blood-letting in Scarlet Fever.*—The *Edinburgh Medical and Surgical Journal* for July last, contains an interesting communication from Mr. A. Dewar, of Dunfermline on this subject. A dissection made of a child which had died of scarlet fever on the sixth day of the disease, and which exhibited unequivocal evidences of inflammation of the mucous membrane of the fauces, pharynx, trachea, bronchi, stomach, parts of small intestines and brain, made early in life a strong impression upon Mr. D. and led him to doubt whether the remedies usually employed were sufficient to conquer the inflammatory action, which, he regards as the cause of the morbid phenomena of the disease. The many mortifying failures which he experienced in his own practice and witnessed in that of others, led him many years ago to resort to general bleeding in the treatment of the disease.

“During the last twenty years,” says Mr. D. “I have witnessed four epidemics of scarlet fever, and for two years past it has prevailed, and still continues to prevail, to a great extent in this town and neighbourhood. Since the 1st of July, 1833, I have attended 183 persons labouring under this disease in its acute stage, *i. e.* with the eruption *still present* upon the body, and out of that number it has been my good fortune to lose only *two*. Nor must this small degree of mortality be altogether ascribed to comparative mildness in the charac-

ter of the disease. As a proof that the present epidemic has not been a slight one, I may mention, that, in this town and its vicinity, upwards of 150 persons have died of scarlatina within the last two years.

“The gratifying success now mentioned, with which the cases occurring in my practice have been attended, is to be attributed to the early and efficient employment of general blood-letting. In every case in which the remedy was properly used, I have invariably found the symptoms greatly mitigated, and in many the disease wholly and suddenly subdued. To accomplish this purpose, however, a scanty or long-deferred blood-letting will not suffice. It must be practised, as in other cases of acute inflammation, so as to produce a marked impression on the circulation, while the quantity drawn must be so considerable as to make it probable that the impression will be permanent. When, therefore, I had an opportunity of seeing the case from the commencement, I preferred drawing blood when the eruption had decidedly appeared upon the breast, but had not spread over the rest of the body. I selected this time chiefly to prevent all ambiguity respecting the nature of the disease. I likewise preferred the evening for the purpose, as I generally found, that, if the bleeding succeeded in breaking the force of the fever during the evening exacerbation, the disease was more certainly subdued than if the blood was drawn during the morning remission. On all occasions I have found it necessary to bleed, whatever was the age of the patient, to complete relaxation. The bleeding when thus practised is immediately followed by diminution of the heat of the body, of the force and frequency of the pulse, and of the head-ache and sore throat; and the eruption entirely disappears, and in many cases scarcely again becomes visible. While the blood yet flowed, many patients have expressed in strong terms the relief they enjoyed. I myself passed through the disease in November, 1833, and can speak from personal experience of the soothing influence which the remedy exerts over the feelings of the sick. None can know but those who have felt it, the sudden and delicious transition which I experienced on being bled, from burning heat, general restlessness, and confused thoughts, to perfect quietude and self-possession.”

Mr. D. was for some time in the practice of setting the patient erect, and allowing the blood to flow until paleness, faintness or vomiting was produced. This he has more recently found not to be sufficient. The mere relaxation, especially, if it has been produced by the loss of a small quantity of blood, seems to produce only a very temporary interruption to the progress of the disease; from this state the patient soon rallies, and the fever resumes its force. Of late Mr. D. has bled all persons who had passed the period of mere infancy in the horizontal posture, and when he has obtained what he considers a proper quantity of blood, he raised them into the erect posture till relaxation took place. In this way he thinks he has avoided the necessity of repeating the bleeding.

Although the commencement of the eruption is without doubt, the time at which blood-letting can be practised with the greatest confidence of success, yet, while the pulse continues strong, and there is reason to believe that effusion has not taken place into the head, Mr. D. has not hesitated to bleed, and has never had reason to regret it, indeed he says he has succeeded on several occasions, where he is convinced no other remedy would have availed to save the life of the patient.

“Ulceration of the throat,” observes Mr. D. “is one of the most severe and painful symptoms that accompany this disease. It is the consequence of the inflammatory action which prevails throughout the whole of the mucous membrane. Though it is probable that ulcerations are more frequent in the throat than in any other part of the mucous membrane, yet they are, without doubt, often to be found in the bronchial membrane and intestinal canal; and I am convinced, that, if dissections were carefully performed, they would be found

to prevail more generally and extensively than has hitherto been believed. No treatment can be more unsatisfactory than the leeches, the gargles, and the liniments, which are in common use for the cure of this untoward symptom. In truth, the treatment of the sore throat proceeds upon a defective knowledge of the pathology of the disease. The depletion is directed to the throat, as if it was the only part of the system labouring under inflammatory excitement, while in reality it is only one link in the chain of general inflammation in that particular structure. If this statement require confirmation, it is obtained in the fact, that, since I have employed general bleeding in the manner described, I have not had occasion in any of the 183 cases I have mentioned, with a single exception, to apply a leech for the cure of the sore throat, although I have seen several die of ulceration in the throat, who had been treated in the usual way. In every instance the pain in the throat was relieved by the bleeding, and readily and speedily yielded to the most ordinary means, and, indeed, in a great majority of the cases, required no special treatment at all.

"I have invariably bled the patient until the eruption *disappeared*, and in a considerable proportion of the cases it did not return, and even when it did return, it was much less diffused and less fiery in appearance. The scholastic and imaginary terrors, lest the eruption be interfered with, I have long disregarded. I look upon the eruption as the evidence of the inflammatory state, and the fever as symptomatic of the inflammation; and I find that the eruption and the fever for a certain period advance or subside together. It is true that the fever often continues after the eruption has ceased, but in these cases it is prolonged by organic lesions produced by the inflammatory action in some internal structure. Out of the 183 cases, 147 were bled, and in all the eruption was essentially diminished, in many finally removed; yet not in a solitary case did any unpleasant consequence follow. The recoveries were uniformly rapid.

"Some speculatist will probably say, that, as the morbid matter is prevented by the bleeding from 'coming out,' the person will not be protected from a recurrence of the disease. Time alone can decide on the validity of this objection. I can only say in answer to it, that I have now known many persons who were thus treated, exposed, again and again, to the contagion, without being affected by it.

"It is gratifying to add, that I have not had even the approximation to a dropsical symptom. I have seen during the last two years fifteen cases of dropsy after *scarlatina*; but they all occurred in persons who had either received no medical treatment, or in whom the treatment had been conducted on different principles from that which I have been recommending. In none of these 183 cases has there been the slightest tendency to dropsical effusion.

"The two cases which I saw *during the eruption*, and in the treatment of which I proved unsuccessful, were instances of congestive fever. The onset of the fever was severe, and the reaction imperfect. The eruption appeared, but was pale, and fluctuated; and the face, hands, and feet, continued cold throughout the disease. The one died on the fourth day, the other passed on to deep typhus, and ultimately sunk apparently from exhaustion.

"The discredit into which blood-letting has fallen in the treatment of scarlet fever, has probably arisen from the want of due attention to the circumstances in which it has been prescribed. It is a remedy of great efficacy for good or for evil. If used at random, and without a careful discrimination of the circumstances of every individual case, it will, assuredly, justify the reprobation which Dr. Currie has thrown upon it; and may prove 'a fatal practice.' If used early, and in insufficient quantity, it will only diminish the strength of the patient, without lessening the force of the fever; and if delayed too long, it will accelerate the effusion into the head, to which the disease is fast hastening. If, on the other hand, it is practised at the proper time, and in sufficient quantity, it will prove a means of cure, safe and successful, far beyond any other with which I am acquainted.

"It will be objected, I dare say, that depletion, more especially ample depletion, will be unsuitable to some epidemics. There are certain conditions of the atmosphere, or rather certain unknown causes, under the influence of which, scarlet fever, (and indeed any other fever,) may assume an unusually malignant character. By this I understand that these causes, whatever they are, so modify the contagion, or the health of the individual, that the early stage of the disease is of unusually short duration, and the worst, or typhoid stage, is speedily developed. This I am willing to admit; but I believe it to be equally true, that the essential character of scarlet fever, I mean the inflammatory state is still present, and can be most successfully combated by its only appropriate treatment,—blood-letting; although certainly, greater promptitude and discretion are necessary in its application. The typhoid state is not the disease, but its consequence, and can only be prevented by removing the previous excitement. The free but cautious and seasonable depletion, which has robbed typhus itself of many of its terrors would, I doubt not, be more successfully directed to the cure of malignant *scarlatina*, than all our other remedies put together."

Mr. D. has related several cases illustrative of the prompt benefit resulting from his method of treatment, two or three of which we subjoin.

"Miss G. aged thirteen, was seized on the evening of the 30th of March, 1834, with languor, pain in the back, and sore throat. During the night she was very hot, extremely restless, and the morning of the 31st in some degree incoherent. I saw her in the afternoon. Her face was flushed, her eyes red, she tossed in bed, was drowsy, and it required an effort to rouse her to consciousness. Her neck was stiff; her throat swelled, very red and painful; skin intensely hot; pulse 125, and strong; her neck, chest, and arms, were covered with the eruption of scarlatina, to the contagion of which she had been exposed. She was raised in bed, and bled to about a pound, when she became faint and the eruption entirely disappeared. She expressed great and instant relief from the bleeding. Two hours after she sat up in bed and took tea. About nine at night a pailful of milk-warm water was poured over her body, after which she slept well. Next morning her pulse was 90, the pain of the throat greatly relieved, and her general feelings very comfortable; the eruption scarcely perceptible. A tea-spoonful of Epsom salts acted gently on her bowels. At night the tepid affusion was repeated. Next day she was so well as to be occasionally out of bed. Took gruel and tea with toast for food. No other remedy was used. On the fifth day from the attack she was able to leave her apartment."

"In the autumn of 1833, I was requested to visit a young woman, aged fifteen, on the fifth day of her confinement to bed, and the third from the appearance of the eruption. She lay prostrate in bed, was drowsy, and could with difficulty be roused to even imperfect consciousness. After a few moments of comparative stillness, she tossed from side to side in bed, and moaned constantly. The restlessness and moaning, with scarcely any cessation, had continued during the preceding twenty-four hours. Her eyes were red, the vessels of the conjunctiva being minutely injected with blood. Her skin was intensely hot, and impressed the fingers with a very peculiar pungent sensation. The distinct eruption had disappeared, but there remained on various parts of the body, particularly the arms and legs, large patches about half the size of the hand, of a dark-red colour, resembling that of venous blood. The tongue was red, and universally excoriated. She complained when the epigastrium was pressed upon. The arterial pulsation in every part of the body was forcible and frequent. The danger was most imminent. Without delay, but not without hesitation, I drew blood from the arm. When about ten ounces had flowed she became faint. This quantity I regarded as insufficient to break the force of the disease. I therefore took the pillows from beneath her head, and put my finger on the wound till she rallied, and then withdrew other ten ounces

of blood. After the bleeding she slept, and seemed more placid. In five hours the strength of the pulse and heat of the skin had returned, when she was again bled to a pound. During the night she was quiet, perfectly coherent, and slept occasionally. In the morning she was so collected as to give a distinct account of her sensations. She complained of pain, and a sense of knocking within the head; her sight was perfect, and the colour of the eye was natural, but the expression wild. The heat of the surface was still very great; but the red patches had entirely disappeared. The pulse was strong and frequent; and the tongue raw. I again bled her to about twelve ounces, and gave her after a short interval, a small dose of Epsom salts in large dilution. From this time the fever did not return with any violence. The only other remedies were tepid washing for several nights, and small doses of sulphate of magnesia to regulate the bowels. She recovered rapidly.

"On the 20th of January, 1835, a boy, five years of age, was confined to bed with a hot skin, sore throat, great thirst, strong pulse, restlessness. He was covered with the eruption of scarlet fever. He was bled to faintness. In the evening I found him running about the room. He was washed at bed-time, and took a small dose of castor oil. No other remedy was used. Next day he was in the parlour."

28. *Hydro-ferro-cyanate of Quinine in Intermittent Fevers.*—Dr. GOUZEE, in his clinical report, in *Observateur Méd. Belge*, June 1834, of the cases treated in the Military Hospital of Antwerp, during the first quarter of 1834, quotes three cases of intermittent fever, completely cured by the administration of a single grain of hydro-ferro-cyanate of quinine, half an hour before the paroxysm.

29. *On the employment of Sulphate of Copper as a remedy in Croup.*—The praises lavished on the use of sulphate of copper against croup by Dr. Hoffmann of Darmstadt, in 1821, in Hufeland's Journal, and reiterated in 1826 in the Journal of Harless, determined Dr. Droste to subject it to trial; and this he has done for the space of seven years, apparently with great success; since during that time he has not lost a single patient,—a very extraordinary circumstance, even allowing that several of the cases were not severe. He states, that he has himself been surprised at the celerity with which the alarming symptoms were, as it were, extinguished after the administration of this salt. He has not recognised in calomel the efficacy ascribed to it by several distinguished practitioners. The first objection to its employment is that it acts too slowly; the second, its action upon the lymphatic system, when administered in large doses or repeatedly, or for a long time. In the latter case he believes that it renders the fibrine of the blood less plastic and more watery, and the children become cachectic and dropsical.

As croup owes its existence to an inflammatory irritation of the mucous membrane of the air-passages, which induces a profuse secretion of lymph, or mucus susceptible of being converted into false membrane, moulded on the laryngeal and tracheal canal, the first indication is to rescue the patient from the imminent danger of suffocation by clearing the air-passages from the mucus with which they are filled, and the false membrane, by which they are lined. This is not effected by means of calomel, unless at the same time be employed its ordinary adjuvants, as blood-lettings, emetics, rubefacients, vesications, and revellents; while the sulphate of copper in a large majority of cases is alone successful in effecting this object.

A full dose of the salt, that is, one, two, or three grains, produces immediately, or at the end of some minutes, violent vomiting, which forcibly detaches the false membranes; and, however insufficient the dose may have been, it is unnecessary to administer a second. Other emetics, on the contrary, when given in a large dose, often occasion *hyperemesis*, their action continues long, they induce diarrhœal symptoms, always useless, often dangerous, and in no

case do they act according to the representation of Dr. Droste, so efficiently as the sulphate of copper. In a small dose, blue vitriol maintains a slight uneasiness, which terminates in profuse transpiration, or vomiting, which finally detaches the rest of the plastic exudation, which is heard wavering in the windpipe and *bronchi*. The voice then becomes clear, and respiration is more easy.

Weinhold admits that copper in a small dose, that is, in a dose too weak to excite vomiting, exercises no deleterious influence on the organism, but that it becomes dangerous when vomiting follows its administration. The contrary proposition appears to be the true one; for in a small dose it is absorbed, and gradually induces danger, especially if the organism be not accustomed to resist the injurious influence of external agents, unless, it is added, the remedy be administered in the homœopathic dose, in which case, though it does no mischief, yet it effects no benefit, because in the infant *belief is inert*.

Dr. Droste does not allow with Dr. Hoffmann, that the employment of the sulphate of copper supersedes the use of other remedies, as local bleeding by means of leeches, if the symptoms demand such remedies. In point of fact, in his cases, he orders not only local bleeding, but the application of blisters. He employs also powder of *digitalis*, or tartrate of antimony as antiphlogistics, sub-carbonate of ammonia as an expectorant, purgative glysters, and the *potio Riverii* in some cases, and *spiritus Mindereri* in others.

The method of treatment consists in giving at the commencement one grain of blue vitriol to an infant under two years, two grains to a child of from two years to four, and three grains to a child between that period and eleven; a dose which is followed by almost immediate vomiting. If by this method the symptoms are not entirely subdued, sulphate of copper is then given in doses of one-fourth or one-half of a grain every two hours, according to its effects and the abatement of the disease. Of these small and subsequent doses, it appears from the cases to be rarely requisite to give more than three or four.

Such are the reported effects of this remedy and method of treatment, as represented by Dr. Droste. It is much to be desired that the author had been a little more detailed and particular as to the exact characters of the cases, as to whether he had really never failed in curing croup by this remedy, as to the subsequent course of the cases, and whether any effects were left by the action of the blue vitriol upon the stomach. We must say, that a detail of the effects of a remedy in which there had been some unsuccessful cases would have been more calculated to produce a favourable impression than one in which there are no instances of failure. Cases of invariable success inevitably lead to the conclusion, that many of them must have been very slight, and that the remedial agent employed had little to do with the result. They prove, in fact, too much.—*Edin. Med. and Surg. Journ. July, 1835, from Heidelberg Clin. Annals, Vol. X. No. 2, 1834.*

30. *On the Employment of Narcotine in some Cases of Nervous Debility.* By M. NAUCHE.—Opium contains several principles, which exert a different action on the elementary tissues of our organs. Morphine and codeine are excitants of the fibro-vascular systems, and sedatives to the cerebro-nervous systems; narcotine appears to be slightly sedative to the fibro-vascular, and powerfully excitant of the cerebro-nervous systems. M. Bailey believes the last named article inert; he has prescribed it in doses of from fifty to sixty grains, without witnessing sensible effects. M. Nauche has found it to exert a very powerful action in small doses. The difference in the results of the experiments of these two practitioners appears to have arisen from M. Bailey having given pure narcotine, and its being soluble only in acids, ether, and fatty matters.

When a lesion made with a cautery or blister is powdered with narcotine, the secretions from its surface diminish, or are entirely suppressed.

When given internally, it produces agitation, increases the courage, and exalts

the powers of innervation of the brain. It is probably to this principle of opium that the Turks owe their mental excitement, and the fury this substance induces in them on the eve of battle.

M. Nauche prescribes narcotine to persons in a state of habitual low spirits, and he has found it relieve this condition. He has also given it with advantage in some cases of incomplete amaurosis, in paralysis, and old nervous affections of the stomach and bowels.

The dose, when employed externally in frictions, is from three to four grains in an ounce of lard; and when used internally, from half a grain to one or two grains daily, incorporated with butter of cacao in the form of pills, or dissolved in ether, and given in drops in an appropriate liquid.—*La Lancette Française*, January 17th, 1835.

31. *Epilepsy cured with Indigo*.—The utility of indigo as a medical agent was first pointed out by Dr. Grossheim, a Prussian physician. The results which he obtained were favourable, and Dr. Ideler was accordingly appointed to make a set of experiments on patients affected with epilepsy. Twenty-six patients were treated, and of these six recovered perfectly; three were apparently cured, but from eight to twelve months afterwards suffered a relapse under the influence of causes which of themselves alone were sufficient to generate epilepsy. Eleven patients were essentially improved, and of the whole number treated, only six experienced no change. The effects of indigo on the animal economy are in no ways disagreeable or dangerous; at first the patients vomited frequently, without any straining or derangement of the digestive organs, after a few days this ceased, and the patient had six or eight stools a day, sometimes accompanied with slight colicky pains; after a short time the purging diminished, the matter passed assumed a fluid character, and this state continued as long as the indigo was administered, without the appetite or digestive organs being injured. The useful reaction of the remedy on the nervous system was proved by the fact, that the epileptic attacks were more severe at the commencement, and seemed to assume a higher degree of intensity, but they soon became less frequent and violent, and at length disappeared. The remedy was commonly given in the form of confection with some aromatic powder, or on other occasions simply by itself. The dose to begin with is one scruple, which may be increased to a drachm after a short time, and gradually carried to half an ounce or an ounce.—*Lancet*, June 6th, 1835, from *Berlin Medicin. Zeitung*. No. 6.

32. *Hydrochloric Acid as a Cure for Lead Colic*.—M. GENDRIN communicated to the Academy of Sciences at their sitting on the 12th of December, 1834, some new observations on the treatment of lead colic. M. G. has found that the curative action of the sulphuric acid is very slow when lead colic is produced by the deutoxide of lead, (minium.) The sulphuric acid has always succeeded as a prophylactic in manufactories of carbonate of lead. In those of minium it is powerless; but M. G. announced that he has ascertained that the diluted hydrochloric acid cures the symptoms caused by the deutoxide of lead, with the same rapidity that the sulphuric acid cures those produced by the salts and protoxide of the metal. He hopes that it will also succeed as a prophylactic.—*Journ. Hebdom. Jan. 3d*, 1835.

33. *Inhalations of the Vapour of a Decoction of Belladonna in Asthma*.—The *Gazette Médicale* for December 27th, 1834, contains an interesting memoir on this subject by M. MAGISTEL. Of eleven persons affected with dry asthma and convulsive cough, to whom the author has administered these fumigations, nine were cured, and the two others relieved. M. M. commences with two drachms of the leaves of belladonna boiled in a pint of water, and the vapour inhaled by means of a convenient apparatus. The quantity of the belladonna is gradually increased to half an ounce. The aqueous extract may be substituted for the leaves, in doses of fifteen to twenty grains in half a pint of boiling water.

34. *Amenorrhœa Cured by Turpentine Injections.*—Dr. ELLIOTSON has successfully treated in North London Hospital, two cases of amenorrhœa, by turpentine injections. The first case was a girl aged eighteen, in whom the catamenia had disappeared about four months before, in consequence of her having caught cold. She was in good health; the pulse 72, and full; she is, however, subject to swelling of the ankles. She was immediately bled to twelve ounces; and an enema consisting of half an ounce of oil of turpentine and a pint of decoction of barley was ordered to be administered every day. On the 5th of May the catamenia appeared, and she was discharged on the 12th quite well.

The other case is that of a girl, aged sixteen, who was admitted April 14th. The catamenia had disappeared about four months previously, without the cause being known. She appeared on her admission to be in good health; her pulse was 78, and rather full. Ten ounces of blood were drawn, and an injection similar to that which was employed in the last case was administered. The catamenia appeared on the 18th, four days after her admission. The enemata were discontinued, and the catamenial discharge ceased on the next day; they returned on the day following, and finally disappeared two days after that. She was bled to twelve ounces, and discharged quite well on May 12th.

Dr. Elliotson, in making some clinical remarks on these cases, said that he was induced to employ the turpentine injections in cases of suppressed menstruation from the circumstance of turpentine being considered an excellent emmenagogue when taken internally. He consequently thought that it might be successfully used in the form of enema in amenorrhœa, as it was known that when it is employed for the removal of ascarides it is much more effective when administered per anum, than when given by the mouth. He had employed this remedy in the case of a lady who was partially insane in consequence of the suppression of the catamenia. For eighteen months she had used all the established means for the removal of the disease, without effect, but the second injection of turpentine produced the menstrual discharge, and the insanity dependent on its retention was removed. It was not, however, always so effectual. He had employed it in a case now in the hospital, without success. Two injections had been given daily for some time, but the catamenia had not appeared. He thought that he had given the turpentine a fair trial in that case, and had therefore discontinued it. He had since ordered a slight injection of the liquor ammon. subcarbon. per vaginam, as recommended by an Italian physician, but without as yet doing any good.—*Lancet*, July 25th, 1835.

SURGERY.

35. *Breschet's Operation for the Radical Cure of Varicocele.*—The honour of increasing the domain of curative surgery, by a radical treatment of varicocele, appears to have been reserved for M. Breschet. This distinguished surgeon has, in fact, devised a plan, simple as it is ingenious, by which the most inveterate scrotal and spermatic varices are completely and expeditiously removable. I shall proceed to lay before your readers a brief account of this plan, accompanied with a case in which it was employed. I make choice of the first case in which M. Breschet operated, in order that the attendant difficulties of a first trial may not be concealed, and, at the same time, that the timid may not imagine them greater than they really were.

The patient was a servant, æt. 29, robust, and of strong constitution, who, so early as the age of fifteen, had perceived a difference in the conformation of the testicles. Some years afterwards, a tumour and varicose dilatation of the left scrotal veins became evident. The patient was frequently obliged to give up his ordinary work. He was admitted into the Hôtel-Dieu, May 27th, 1833.

The diagnosis of the affection was easily established; the usual symptoms of

spermatic and scrotal varicocele existed in a very marked manner. Many of the dilated veins of the scrotum equalled in size the auricular finger; and a fasciculus of vessels, united so as to form a considerable mass, originated at the cauda of the epididymis, from which point they followed the course of the cord to the external abdominal ring. The vas deferens was recognised by the characters which are peculiar to it.

The usual palliative treatment was prescribed, and its use continued during a month. The veins of the cord and scrotum, during that period, became slightly diminished in size, but the increase of volume, which followed the erect position, clearly indicated that the treatment had been, indeed, but palliative. Pressingly urged by the patient, M. Breschet thought of putting into execution a mode of treatment for a radical cure, the idea of which he had previously conceived. The principle upon which it was based, was the obliteration of the affected vein *by compression*. The compression was at first produced by small iron pincers, the pressure of which always equal, and resulted from the simple elasticity of the branches of the instrument. But the difficulty of using these pincers, their occasionally too great pressure, and the impossibility of padding their metallic surfaces, induced M. Breschet to use in their stead others so formed, as to permit the part destined to come in contact with the scrotum to be covered with soft linen, or leather, and the pressure to be graduated at will, by means of screws.

The instruments were at first applied on the veins of the scrotum, at the extremity of two of the most voluminous of them; care being taken to leave no considerable anastomosis between the two points compressed. Their presence determined slight local pain, and the trifling inflammation which followed, was combated by emollients, resolutes, and repose. On a second application, the pain was much less considerable; the graduated compression caused a thinning of the skin, and, bringing the two opposed portions of that membrane into contact, produced a dry eschar, solid, thin, and transparent, resembling parchment. Its detachment was followed by an ulceration of much less extent, and less painful than in the former instance. These ulcers were perfectly cicatrized in a few days; they produced no hæmorrhage. The vein remained full of clotted blood; this blood was gradually absorbed; no inflammation took place; and subsequently all traces of the existence of the vessel had disappeared. The different veins of the scrotum were successively treated in the same manner.

This success was, however, incomplete. The spermatic veins still remained. The application of the instrument to them was not so easily effected. They were surrounded by a thick skin containing fat, and the vas deferens was in their immediate vicinity. The small size of the nerves and arteries prevented their being drawn aside. The accidents to be apprehended were pain, violent inflammation, formation of a deep eschar, and denudation of the cord. For this new application the instruments were modified, so as to offer a larger surface to the part affected, and to present a curve, which should prevent the pressure of the fold of the skin. The vas deferens was excluded. The pain on the application was considerable, but removed by local means. The instruments were kept on seven days; one placed as near as possible to the external ring, the other towards the inferior part of the cord. They determined an inflammatory swelling of the parts comprised between the two pincers, and produced a superficial eschar of the part on which they immediately acted, combined with an adhesion of the two opposed cutaneous surfaces. The consequent ulcerations were cicatrized in less than fifteen days; before which time the cord had lost its knotty feel. There, however, still existed, at the cauda of the epididymis, a mass of vessels extending as far as the place of the last compression. Two other pincers were applied; one immediately before the testis, which was drawn backwards, the other two inches higher up. They were kept on the same number of days as the preceding, and followed by some pain, inflammatory swelling, and eschars of the integuments.

It deserves remark, that the inflammatory symptoms, after this last opera-

tion, were more violent than before, and less promptly removed. The instrument placed above the testicle produced a perforation of the skin, and a solution of continuity resembling that produced by a seton. The inflammation and swelling were considerable; an abundant oozing of a sero-purulent matter existed during fifteen days, from the ulcer. These accidents were got under by emollient cataplasms and repose, and at the same time the varicose mass which had existed at the bottom of the scrotum, was converted into a small tumour, in which no trace of vessels was discoverable. The disappearance of the swelling soon permitted an examination of the testicle, which had been long lost amid the vast fasciculi of vessels. Its nutrition was found to be unimpaired, and its volume equal to that of the opposite side. The cure was perfect at the end of November.

The length of time occupied in the cure of this case, is by no means to be attributed to the method employed in its attainment, but to the various difficulties encountered in devising and having made the instruments employed, and to the caution necessary in the first trial of an operation of which the ultimate results could not, *à priori*, be fixed with any degree of certainty. M. Breschet has since operated in numerous cases, both in public and private practice, with perfect success, and obtained in a much less time. I have myself seen two cases treated by him at the Hôtel-Dieu, in which the cure was perfect in from four to five weeks.

It is exceedingly important that the compression be more than sufficient to induce an adhesive inflammation, with occasionally slight suppuration of the coats of the veins; such an effect would not only be insufficient, but might be injurious, from the propagation of the inflammation along those coats, or from the purulent infection of the blood. The pressure should be forcible enough to destroy the life of the part, but in a gradual manner. The mortification is confined to the part immediately acted on.—*Lond. Med. Gaz. Dec. 13th, 1834.*

36. *Operation for Contraction of the Fingers, with Clinical Remarks.* By CÆSAR HAWKINS.—Thomas Coffee, æt. 30, was admitted into St. George's Hospital, January 14th, under the care of Mr. Hawkins, in consequence of a deformity of the left hand, which seriously interfered with its use. The little finger was kept permanently contracted in the bent position, so that the back of the first phalanx was always presented to any object which he wished to grasp, the joint being directed towards the root of the thumb. There was a broad, thick piece of skin and subjacent substance running from the centre of the palm of the hand, half way down the first phalanx, and partially towards the second, the base of which in the palm seemed, when the finger was stretched, to have a narrow band, looking just like a flexor tendon in shape and size, running up towards the wrist, the extension of which caused a good deal of pain. The ring finger was also partially contracted in the same way, but nothing like a tendon from this finger could be perceived connected with the palm.

This contraction had gradually taken place during the last five years, during which time nothing of any consequence had been done for him, and the inconvenience being now considerable, he wished it, if possible, to be relieved.

Mr. Hawkins ascertained, by moving the fingers in different ways, that there was no adhesion of the tendons, and that the contraction was in the fascia only and determined to divide the contracted parts. Before operating, however he gave the patient two doses of calomel and haust. sennæ, to prevent the inflammation which would otherwise probably ensue; and on the 22d he performed the operation, which he explained afterwards to this effect:—

The little operation which you have just seen, is one which, perhaps, you have not before witnessed, as it is very seldom done; partly because the disease seldom produces so much inconvenience as to induce the patient to submit to it, and partly because its nature is not well understood; for it is generally supposed to be a contraction of the tendon of the flexor muscle, and that its divi-

sion would be very troublesome, from inflammation of its sheath, or that it would render the finger useless afterwards. It is an affection which I have, however, repeatedly seen, and it is remarkable that it almost always selects the little and ring fingers, and consists in a slow inflammatory action in the fascia of the palm of the hand, going on for many years, (in this instance for five years,) before it produces very great contraction, and arising, (as in this patient,) without any known cause. The only description of it with which I am acquainted, is one by Dupuytren, who seems to have frequently operated for it on the principle which I have adopted here. The portion of fascia affected, was that which comes from the annular ligament, and divides near the base of the fingers, so as to embrace the sides of the little finger, and one side of the ring finger; and what I did for it was this.—I first made an incision, about three-quarters of an inch long, in the centre of the palm, across the base of that portion of fascia which went to the fingers, and which started up when it was stretched, so as to look like a tendon. This being divided, a good deal of room was at once gained, and you saw the fat and nerves of the fingers at the bottom of the incision. I next made a semicircular incision more than half way down the little finger, at the fold which joins it to the palm of the hand, down to the tendinous sheath in the centre, and just avoiding the artery and nerve on each side. I next divided, in the same way, the side of the ring finger next to the little finger; so that by these incisions the portions of the fascia inserted into the fingers were divided, and the fingers could be extended almost to their natural length, allowing only for the shortening of the flexor muscle and tendon in five years, and which will, no doubt, soon yield. I also made an incision, in a longitudinal direction, through the thick substance formed by the skin and fascia together, which was there more than half an inch thick, thinking that this might, perhaps, allow more easily of extension. I gained nothing, however, by it, unless it facilitates, by suppuration, the removal of this hard substance, which has been formed by the continuance of the disease. I have placed, (as you saw,) a little lint in each cut, and have directed it to be placed on a splint, to keep the hand at rest, as there will perhaps be some inflammation from opening the fascia, and to keep the fingers stretched, which it will be necessary to do, even after the wounds have healed, for some time each day, or at night.

January 27th.—The wound being dressed, was found to be suppurating well; and there was no inflammation or swelling, such as might reasonably have been anticipated.

February 20th.—The incisions have quite healed, and the fingers are perfectly straight; so that there is every reason to suppose that he will regain the perfect use of his hand, all the fingers of which are a little stiff at present, from the use of the splint. The last few days, however, the splint has been left off, and the flexion of the fingers is improved. Almost the whole of the thick mass formed by the contraction has disappeared, and he has as much power over the fingers, which were operated upon as any other.—*Ibid*, *March 7th*, 1835.

37. *Brodie on Prolapsus of the Rectum.*—I have just observed, that it is very common to confound *prolapsus of the rectum* with internal piles. This error is committed not only in common conversation, but by surgical writers; and hence it is that no good account, so far as I know, has ever been published of the first mentioned disease. But the difference between internal piles and real prolapsus of the rectum is this: in the protrusion of the former, the mucous membrane covering them descends, and may be seen below the anus; but it is only the mucous membrane, there is no descent of the muscular tunics; whereas, in the latter, the whole of the rectum comes down, and sometimes as much as twelve inches in length. I have never dissected a case of prolapsus of the rectum; but it is impossible to examine a genuine instance of this displacement in the living person without being satisfied that the muscular tunic is protruded, as well as the mucous membrane. There being such a marked difference be-

tween prolapsus of the rectum and internal piles, nothing can be more absurd or unscientific, than to confound these two diseases with each other.

It is not remarkable that the whole of the tunics of the rectum should sometimes protrude in this way. Look at what happens to the bowel above. Do you not find one portion of it slipping into another in the case of intussusceptio? and prolapsus of the rectum is just the same thing. In one portion of bowel slips into another, why should not the rectum slip out at the anus?

Prolapsus of the rectum occurs most frequently in children, and especially in those with large tumid bellies and costive bowels, where the whole mass of the intestine becomes too large for the cavity which contains it. Simple dissection will inform you why children are more liable to this disease than grown-up persons; it is because the prostate gland, urethra, vesiculæ seminales, and all these parts, are not so much developed as in the adult. The attachment of the rectum to the surrounding parts does not extend so high in children as in persons of mature age, while the reflexion of the peritoneum takes place lower down, and hence the rectum is more liable to be pushed out.

In adults, prolapsus of the rectum sometimes occurs as a consequence of piles. The patient having been liable to the protrusion of internal piles, and the sphincter muscle having been thus continually dilated, the rectum is more liable to slip out, as you may well suppose, than it would be if this dilatation had not taken place. However, in grown-up persons the disease is comparatively rare. I see it every now and then, but very seldom; and where you meet with it in the adult, it has generally began in early life.

When prolapsus of the rectum is combined with internal piles, you will see the latter at the upper part of the prolapsus—that is, close to the orifice of the anus, forming a zone around the gut; and the colour and appearance of the mucous membrane covering the protruded piles, is altogether different from that of the membrane covering the rest of the gut.

The inconvenience which the patient suffers from prolapsus of the rectum, varies very much in different cases. Sometimes it comes down occasionally after a costive motion only, and is easily pushed up; and when pushed up, it remains in its place till some accidental circumstance brings it down again. In other cases you return it, but the moment the patient begins to walk about, down it comes again; and in instances of long standing, the bowel becomes so fixed in its unnatural position, that you cannot return it by any means, and then other inconveniences follow. The rectum having been constantly protruded, becomes inflamed from friction, ulcerated, sore, tender, painful; and where the protrusion has existed for a long time, you will find it covered by a kind of cuticle.

Treatment.—When you are called to a child labouring under prolapsus of the rectum—and these are the cases that you most frequently meet with—you will almost invariably relieve him in the following manner:—Purge him with calomel and rhubarb occasionally; be very careful about his diet, that he does not eat a great quantity of vegetable substance, which tends to fill up the cavity of the bowel, while it affords but little nourishment; and every morning let some astringent injection be thrown up. The injection which I have generally used, is a drachm of tinct. ferri muriatis, in a pint of water; and two or three ounces, or more, of this, according to the age of the patient, may be injected into the rectum every morning, the child being made to retain it as long as possible. I never saw a case of prolapsus of the rectum in a child which was not cured in this manner.

If you are consulted about an adult labouring under this disease, and it has been consequent on a protrusion of piles, the first thing to be done, is to destroy the piles. Let the patient sit over a pan of hot water, and the sphincter muscle being relaxed and the parts distended with blood, the piles and rectum will all protrude together; you must then tie the piles, which you can easily do, your assistant holding the rectum on one side, while you apply the needles

and ligatures on the other. Having tied the piles, you return the rectum into its proper place; and you will probably find, that in curing the piles, you have also remedied the prolapsus of the bowel. But if the patient neglects himself afterwards, as the piles return, so the prolapsus returns with them.

Where the disease is not complicated with piles, in those cases which occur occasionally, in which prolapsus of the rectum has began in early life, and has continued to adult age, the cure is very difficult, and perhaps impossible. The patient must be retained in the horizontal posture, for then the rectum is much less likely to protrude than when he sits up; he ought not to sit up even for an evacuation, but should have a bed-pan. Whenever the rectum protrudes, it should be pushed up again; an astringent injection should be employed daily, and the patient should be put through a course of Ward's paste. This plan affords him the best chance of a cure, which he can have, but I will not say that it will always be successful. I remember trying it for a great length of time in a woman in the hospital, and after lying many weeks in bed, when she got up the rectum came down as before; nay, it came down sometimes when she was in bed, even in the horizontal posture. In these cases, however, you may employ with advantage the truss for prolapsus of the rectum, which I mentioned as applicable chiefly to bad cases of internal piles. There was a patient in the hospital, (a soldier,) who had, I suppose, eight or ten inches of the rectum constantly protruded, and it could not be returned. After trying various means for a length of time, he left the hospital as bad as when he came in, and I do not know what became of him. It occurred to me afterwards, that in such a case as this, it might be advisable to apply ligatures, and then cut off the protruded gut; for though the disease is not immediately dangerous, yet it must be regarded as ultimately so; and it might be worth while for the patient to run some risk at the time, for the chance of subsequent cure. I do not know that such an operation has ever been performed; but is it not deserving of consideration, whether we ought not to have recourse to it in certain cases? There is a natural cure of bad cases of intussusceptio, the analogy of which is in favour of the practice which I have just suggested. In the cases to which I allude, one portion of gut being protruded into another, the protruded portion is constricted by the edge of that into which it has passed; the circulation in it is stopped, and it sloughs away as if a ligature had been put round it. In this manner a portion of gut, eight or ten inches in length, has sometimes come away, and the patient has lived and done well afterwards. Several cases of this kind are on record; and I once had an opportunity of dissecting a patient who died when the sloughing process was taking place. If such an operation as I have proposed were to be had recourse to, the gut must be included in several ligatures, so that the orifice of it may not be obstructed, as it would be by a single one.—*Ibid*, March 14th, 1835.

38. *Case of Ligature of the Subclavian, for the cure of an Aneurismal Tumour of the Innominata.* By C. TARRAL, Esq.—I was requested by my excellent friend M. Laugler, surgeon to the *Necker Hospital* of Paris, to examine and give an opinion on the disease and treatment of the following patient.

M. Clery, aged fifty-seven, complained of troublesome catarrh, dyspnœa, difficulty in swallowing, and incapability of placing his body in any but the erect posture. His neck presented a tumour of the size of a large hen's egg, which pulsated synchronously with the radial artery. The tumour extended about two inches above the right clavicle, whose sternal extremity it had dislocated, and pressed against the trachea, which was visibly pushed to the left side. Outwards, it reached to near the middle of the right clavicle; downwards, to about two inches from the top of the sternum, which was here prominent.

Several large superficial thoracic veins covered the tumour, and anastomosed with the veins of the neck. These symptoms might have led to a belief that the subclavian and right carotid arteries were alone affected; but on carefully examining the tumour, there was great reason to suppose that the innominata,

and perhaps even the arch of the aorta itself, participated in the disease. The deviation of the trachea to the left side; the dull sound furnished by percussion on the first and second ribs, where no tumour was sensible to the eye; the difficulty of breathing; the peculiar resonance of the voice, which was of an ægophonic character, easily distinguished by auscultating the back of the chest, a symptom of great importance in these cases; the impossibility of feeling the termination of the tumour below the clavicle, joined to a consideration of the frequency of coëxistent aneurisms of the innominate and aorta, &c. were the principal sources from whence we formed that diagnosis. The tumour, which the patient attributed to a blow he had received, was now considered to be the principal cause of all his symptoms. M. Clery, although much weakened by his disease, was still in a tolerably good condition for an operation, to which he gladly consented.

M. Laugier having for several days administered opiates, determined, (12th June, 1834,) on taking up the right subclavian artery soon after it passes beneath the clavicle. Much against my wish, M. Laugier followed M. Lisfranc's mode of operating, that is, by cutting between, or, if possible, by separating the sternal from the clavicular portion of the pectoralis major muscle. But proceeding thus, the surgeon attained the artery with great difficulty, and only after having transversely divided the clavicular portion of the pectoralis muscle. The vessel was then isolated, and tied by a single silk ligature. The great dyspnœa which the patient experienced by extending the neck during the operation, necessarily rendered it tedious and painful, and it would now have been almost impossible to put a ligature around the carotid artery, which I proposed to M. Laugier, thinking it would afford a greater chance of success. The operator being always opposed to this view, we paid but little attention to the state of the vessel's pulsations.

The lips of the wound were brought together by sticking plaster, and the patient was put to bed. No visible change occurred in the tumour immediately after the ligature was tightened.

The following day, (13th,) the tumour was evidently smaller, its pulsations weaker, and the patient was able to sleep, which he had not done for several nights previous to the operation. The radial artery did not beat, the limb was natural and comfortable.

June 14th.—He felt much relieved, breathed easier, swallowed better, and demanded food, which was granted to him; the pulse in the left arm was good.

19th. The patient went on well until this day, when a slight hemorrhage from the wound took place; the blood was of an arterial colour. This accident returned several times, but entirely ceased on the 22d.

27th. The patient assured me that he now perceived that his trachea was resuming its natural position; he complained of pain in the shoulders and back; was constantly sitting with his chest erect, and his head bent forwards and downwards; the pulse in the right arm was sensible to the touch. The ligature still remained in the wound, which continued to suppurate; the veins covering the tumour were much diminished.

July 2d.—He complains of pain in his back; his cough torments him; the tumour in its most elevated point seems to beat more strongly than before the operation. Acetate of lead and digitalis, in small doses, were now prescribed.

9th. A violent paroxysm of dyspnœa came on, which was combated by bleeding; the cough continued; the respiration was very laborious; insomnia.

All these symptoms increased, and the patient expired on the 12th, one month after the operation, the ligature still remaining in the wound.

Post mortem inspection twenty-four hours after death.—The limits of this communication will not allow me to give a minute description of the various interesting morbid states which were discovered; what pertains especially to the operation will alone be noticed. On laying open the thorax we found a large aneurismal tumour of the arteria innominate, the pendicular length of which was five inches and a half, (French measure;) its breadth from side to

side was six inches five lines; the tumour evidently pressed against the trachea; the bronchi were considerably flattened. The aorta was also dilated; its arch, in its middle, measured six inches three lines in circumference; immediately after it gives off the left subclavian artery, its circumference was three inches; the inner membrane of the aorta presented numerous and common cartilaginous points. The *arteria innominata* was the real seat of the aneurismal tumour; its membranes could not be traced far; the sac was nearly filled by firm, dense, coagulated layers of fibrine; the lower part of the tumour contained more-recently formed coagula, and one coagulum, most probably formed since death, extended into the descending thoracic aorta.

The right common carotid artery, from its origin to within a third of its extent, was completely obliterated, and presented here and there singular valvular-like pseudo-membranes. The right subclavian artery, of natural diameter, was quite pervious to within half an inch of the point where the ligature was applied—that is, two inches ten lines from the internal mammary artery, or one inch eleven lines above the circumflex humeral artery. The ligature had divided the axillary artery, but was retained in the wound by a coagulum which had formed in its noose during the hæmorrhage, which probably came from the lower end of the divided vessel, which was much less firmly closed than the upper one, and into which the clot evidently extended. Besides, close to the lower mouth of the artery existed a tolerably large collateral branch, which may have been the cause of the hæmorrhagy, and the less perfect obliteration of this part of the arterial trunk. The subclavian artery was alone tied; the branches given off between the tumour and ligature, viz. the vertebral, internal mammary, thyroid axis, &c., were of natural size and appearance, and quite pervious. The left carotid and subclavian arteries were healthy. The vena cava superior was much compressed; the subclavian veins, pushed from their proper situation, were likewise flattened and partially obliterated, the collateral branches were considerably enlarged, &c. &c. The third and fourth dorsal vertebræ were carious or ulcerated at their surface, and covered by a fetid matter, which communicated with the interior of the lower and back part of the aneurismal sac. Exactly in this situation the trachea was extensively diseased; its inner membrane was thick and dark coloured, and presented on its surface a dirty gray mucus, its follicles very prominent, &c. The œsophagus was here found ulcerated, and communicated with the fetid matter of the diseased vertebræ; the lungs were engorged; the other viscera presented no lesions worthy of our present notice.

Here then is another case exemplifying the great difficulty of making a correct diagnosis of aneurismal tumours when situated in the neck and superior part of the thorax, a subject which has particularly attracted our attention elsewhere.* In the present instance, however, we were fortunate in forming a right opinion with regard to the principal vessels, and in adopting a rational surgical operation. Nevertheless many morbid lesions escaped notice; the complication of diseases and the similarity of their symptoms, was the source of error. Was it not plausible to ascribe the pain in the back, the pain in the throat, the difficulty of deglutition, &c. to pressure of the tumour? Was it not reasonable to suppose the origin of the right carotid and subclavian arteries likewise affected, especially the carotid, whose pulsations were exceedingly feeble just above the tumour? I regret not having examined this vessel more minutely during life; the patient could not bear pressure on the neck, it even produced syncope when applied by M. Laugier. From the slight examination of this vessel, we merely thought it implicated in the disease, not obliterated. But the most valuable fact in this observation is undoubtedly the decrease of the aneurismal sac, both the subclavian artery and its large branches being pervious and of natural size. This circumstance certainly tends most fully to establish the principle of the operation. May it not be considered most fortunate

* See *Journal Hebdomadaire de Medecine*, Paris, Sept. 26, 1829.

that the surgeon abstained from employing force, (which many practise,) in pulling the ligature away? for this course evidently might have caused a serious hæmorrhagy, by withdrawing the plug of coagulum which closed the mouth of the artery, and filled the noose of the ligature.—*Lancet*, March 21st, 1835.

39. *Chlorures of the Oxides of Sodium and Calcium in Burns.*—In 1825 M. LISFRANC conceived the idea of applying these preparations for the relief of the accidents produced by burns. Those medicaments act as astringents and sedatives, and not only prevent the increase of inflammation in the injured part, but also remove it almost entirely. The pain resulting from burns is developed under the influence of innervation; after a few hours use of the chlorures the patients suffer much less, and often not at all. By cutting short the intense action of extensive burns, their reaction on the constitution, and particularly on the intestinal canal, is avoided. It is unnecessary to mention, that as the state of stupor in which the patient is often plunged results from inflammation or innervation, this state commonly improves, or is dissipated, with the removal of the two causes.

When a solution of continuity without eschar exists, the chlorures of sodium or calcium possess in a high degree the property of producing a plastic exudation, which immediately becomes organized like a false membrane. The new tissue ordinarily is developed from the circumference to the centre, and in a short time fills up the solution of continuity, in the same manner as if a flap from the surrounding tissues had been laid down upon the part.

The chlorures determine the formation of false membranes, not only in the second degree of burns, but also in a degree much more advanced, when the eschars have come away, and the granulations are well developed. A point of much importance is the circumstance of the cicatrix being much more solid after this treatment than any other. It is formed, as has been mentioned, by means of a new tissue which covers nearly the whole of the denuded surface, the edges of the skin being very little displaced. Hence if the ulcer be situated on the lower part of the leg, the integuments cannot become too narrow.

Experience has also demonstrated to M. Lisfranc, that the contraction which always takes place in the cicatrix, is much less considerable in the species of false membrane produced by the action of the chlorures. It has been asserted that the chlorures of the oxides of sodium and calcium facilitate the fall of the eschars, to whatever cause they may be due; however, facts prove, that if the inflammation be violent and of a phlegmonous nature, the chlorures generally augment its intensity, and thus fail in their object, while, on the contrary, if it be slight, they diminish its force, and thus prolong the act of elimination. This has been peculiarly observed in thin patients, and in those in whom the eschar is dry and hard. Finally, as antiseptics, the chlorures are more injurious than otherwise, whenever the gangrene depends upon an excess of inflammation, and when the latter, notwithstanding the death of a certain extent of tissue, persists to a high degree. The chlorures of the oxides of sodium and calcium are more especially applicable to burns of the first and second degree. At first, M. Lisfranc was apprehensive of the intensity of the inflammation; but experience soon proved, that these remedies succeeded equally well in cases where the inflammation merely occupied the surface of the skin. The chlorures generally employed in cases of burns are at 3°, (chlorometer of Gay Lussac;) but the inflammation and idiosyncrasy of the skin may require modifications. If the chlorure, at the degree mentioned, does not produce any sensation, it is not active enough. M. Lisfranc increases it to 4°, 5°, or even 6°. If, on the contrary, the application of the chlorure determines an itching heat, and a little pain, not lasting more than half an hour, the medicine is too strong and may augment the inflammation; the dressing must be removed, and a solution at one or two degrees employed. Finally, in order that the chlorures should produce the desired effect, the heat and itching sensation which they occasion, should not last more than five, ten, or fifteen minutes. In the com-

mencement of his experiments, M. Lisfranc applied the chlorure equally over all parts of the burn, but he soon perceived that the cure was much more rapidly attained in all points where the rete mucosum had been exposed; hence the remedy acts with less efficacy through the epidermis, and it is advisable, whenever it can be done, to remove this insensible layer of the skin.

The whole surface of the burn is first covered with a compress perforated in many places; above this a mass of charpie, at least two inches thick, and moistened with the chlorure, is placed; the whole is retained by a bandage. During winter, when the surface of the burn is very extensive, and the patient lies in a state of excessive stupor, the riddle-shaped compress should be warmed before it is applied; and according to the temperature of the atmosphere, the apparatus is to be moistened six or eight times per day. The dressing should be renewed every twenty-four hours.

M. Lisfranc was conducted to the employment of chlorures by the following circumstances. Some patients were affected with burns of the first and second degree, extending over at least two-thirds of the surface of the integuments. On the first day he followed the precepts recommended in surgical works; he opened the phlyctenæ at the lowest point, and applied goulard cerate, and charpie: the following day the inflammation had acquired an immense degree of intensity; the fever was high, and the effects of the reaction on the intestinal canal were visible: the patients were stupid, and exhibited the indifference peculiar to their situation in this state. Surgeons consider individuals thus affected as beyond the reach of cure. Under these circumstances, M. Lisfranc, who had already used the chlorures in cases of inflammation complicated with ulcers, thought of trying them, and succeeded in saving his patients. Since that period he has been equally fortunate. The following conclusions may be drawn from the principles laid down in the memoir before us:

1st. That the chlorures of the oxides of sodium and calcium, employed, according to the indications laid down, against burns, dissipate almost completely the pain, diminish the inflammation and innervation, and prevent any injurious reaction on the economy.

2d. That they often produce the cure of patients who would have certainly died with the ordinary measures.

3d. They hasten the cure and fall of the eschar, and produce much better cicatrices.—*Gazette Med. March 21st, 1835.*

40. *Remarks on Excision of the Superior Maxillary Bone.* By JAMES SYME, Esq.—To prevent this operation from being misapplied, and losing the confidence which may justly and advantageously be placed in it, the cases admitting of its effectual performance must be carefully distinguished from those in which, from the disease implicating the bones of the nose or the base of the skull, it cannot be of any use. As the external appearance in both these kinds of cases is not unfrequently very similar, the history of the disease should always be attentively considered along with its existing features. Head-ache, stuffing of the nose, protrusion of the eye, and expansion of the upper part of the face, must always be regarded as unfavourable signs, especially if observed primarily or early in the case. On the other hand, caution is required lest the operation be employed in cases where it is not really necessary, as when the tumour depends on a cyst containing fluid developed in the substance of the bone. The external appearance and consistence of such swellings closely simulate those of fibro-cartilaginous solid tumours, which, of all the morbid growths in this situation, are the most favourable for removal. But the diagnosis between them may in general be easily effected by pressing with the fingers over the surface of the enlargement, in one or more parts of which the bony shell is usually found so thin as to yield and crackle like a piece of parchment. Gensoul* relates a case in which the thickness of its parietes concealed

* *Lettre Chirurgicale, 1833.*

the existence of a cyst, and led him to undertake excision of the bone, in which he had proceeded so far as to dissect away the cheek from the tumour, when its true nature was discovered. But in all the cases that have come under my observation, there was a part of the shell sufficiently thin to be easily recognised; and the two following may be selected as examples.

A gentleman came from the country to have a tumour of the upper jaw removed. It depressed the palate, encroached upon the nostril, and elevated the cheek. At the most projecting part in each of these situations the tumour, though elsewhere of bony consistence, yielded to pressure, and recovered from it with a crackling sensation. Dr. Thomson, Mr. Turner, and I, who saw the patient together, agreed that his complaint depended merely upon a cyst, which would contract and be obliterated if freely opened. I accordingly evacuated a quantity of limpid fluid by making a puncture under the lip, after which the swelling contracted, at first rapidly, and afterwards more slowly, until it ceased to occasion any annoyance. Last summer a young lady from North Shields applied to me on account of a tumour of the lower jaw, which extended from the bicuspid teeth to the articulation. It was round and firm, and had been growing for three years, having been preceded by pain in the bone, which led to the extraction of the grinders at the part affected. In the most prominent point of the tumour, where it distended the cheek, and also in the situation of the gum, which was much expanded and flattened, I detected the characteristic yielding and resiliency of the thin osseous, or rather at these parts membranous, shell of a cyst, and did not hesitate to open the tumour by removing an elliptical slice from the alveolar region sufficiently large to prevent any chance of the aperture soon closing. Half a tumblerful of fluid, containing numerous shining scales of cholesterine, was evacuated. The patient suffered no inconvenience, and before long observed a remarkable diminution in the size of the swelling, which I understand has since gradually become smaller, and now does not equal that of a pigeon's egg.

In such cases it has been advised to employ setons, caustics, and other violent means to destroy the secreting action of the cyst, and induce a healing granulation of the surface; but there is reason to regard this practice as unnecessary and hurtful. That it is unnecessary will appear from the cases just related, to which others attended with a similar result might have been added; and that it is injurious seems probable from the following one. A young man had a large tumour of the lower jaw, which was ascertained to depend on a cyst in the bone. A seton was passed across it from the mouth through the cheek. Contraction followed; but a solid growth afterwards occupied the place of the former cavity. My opinion being then asked, I advised excision of the affected portion of the jaw, which was executed by the gentleman who had operated in the first instance.—*Edinburgh Med. and Surg. Journ. July, 1835.*

41. *Extirpation of the Eye for Medullary Degeneration.*—Mr. SYME expresses it as his conviction, founded we think in justice, that it would be better for the interests of humanity and the credit of surgery if this operation were entirely abandoned. The melanotic disease of the eyeball has been repeatedly removed, if not with permanent success, at all events with relief of considerable duration; but the true medullary affection, such as is often met with at an early period of life, does not, he believes admit of any salutary interference. "If it could be proved," adds Mr. S. "that excision had been successful in a single well authenticated case of medullary tumour of the eye, it would be wrong to refuse the chance of benefit from the operation. But if the result of numerous trials, under every variety of circumstances, has been uniformly unfavourable, it must be cruel to repeat the painful experiment any longer. The only instance of alleged success met with in this country is that recorded by the late Mr. Wishart."* The operation was performed on a boy nine years of age, four

* Edin. Med. and Chirurg. Journal, 1823.

months after he had received a blow on the eye. "The left eye was dull, and presented a general turbid appearance; the cornea was transparent, but numerous vessels passed into it over the sclerotica. The pupil was moderately dilated and fixed; its margin was slightly serrated. In the posterior chamber an opacity was observed resembling a yellow dusky membrane, lining the whole posterior part of the eyeball, and perceived more distinctly when the eye was viewed laterally." Mr. Lawrence has remarked in regard to this case,* that "it is more analogous to those instances of brilliant deep-seated discoloration following serious accidents, than to the unequivocal examples of the medullary fungus." The justice of this suspicion was forcibly impressed upon me by a case which I lately saw with Dr. Combe of Leith. The patient was a little boy whose eye had been wounded some weeks previously by a pin-pointed arrow. The appearances presented by it were precisely those described by Mr. Wishart, but the brilliant yellow coating at the bottom of the ball, which, had it not been for the history of the case, would certainly have been ascribed to the presence of a malignant growth, was doubtless caused by an effusion of lymph; and not only the external appearances in Mr. Wishart's case, but also that presented on making a section of the extirpated eyeball, admit of the same explanation. "The diseased mass into which the retina had been converted, connected only to the optic nerve, floated loosely in various folds, occupying both chambers of the eye."—*Ibid.*

42. *Simple Fracture of the Os Femoris—Reunion—Death at the end of Two Months--Dissection.* By JAMES SYME.—Susan Barr, aged fifty-one, was admitted on the 2d of April, in consequence of having sustained a fracture of the left thigh bone, which she stated had happened the preceding evening from being thrown down by a man who ran against her while crossing the street. The injury having been ascertained to be seated in the upper third of the bone, the limb, properly supported by splints, was placed upon a double inclined plane.

On the 15th she was suddenly seized with sickness and vomiting, and then became extremely hot and restless, with dry brown tongue and quick pulse. In three or four days these unpleasant symptoms left her, and on the 20th of May the limb was found sufficiently firm to be freed from restraint. On the 27th she had a rigour and a return of her former symptoms, which continued with progressive aggravation until the 7th of June, when she died.

The fracture had evidently been comminuted. The broken surfaces remained *quite unconnected*, a soft bloody semi-fluid substance only lying between them. In the medullary canal there had been a deposition of osseous matter in a sort of granular state, and the edges of the fracture were united by bridges of dense bone. In this case, then, the *provisional* callus of the French pathologists was nearly completed.

It is a remarkable fact in the history of pathology, that Duhamel's theory of the reünion of fractures, which was founded on an erroneous analogy between the formation of wood and that of bone, has proved to be much nearer the truth than that of Haller and his pupils, who entertained correct opinions as to the formation and nourishment of bone. Duhamel supposed, that, in a case of fracture, the periosteum had its inner layer converted into bone, just as the inner layer of the bark of a graft is converted into wood, and that thus a connecting bridge was formed between the broken bones. When specimens were shown to him of the union extending through the medullary canal, he explained the appearance by alleging, that the *internal* periosteum had suffered a similar change; and when his attention was called to sections of old united fractures, in which a compact mass of bone occupied the seat of the fracture, he was satisfied with supposing, that the external and internal periosteum had united. Rude and crude, and ill-founded as this theory was, it approaches wonderfully

* Treatise on Diseases of the Eye, p. 623.

near the enlightened views of Breschet and Dupuytren, who have been the first to explain satisfactorily the process by which the every-day accident of fracture is repaired. The reader is no doubt aware that the explanation formerly admitted, of an organizable substance effused from the broken bones into the space between them, and gradually hardened into bone, is quite untenable; and that the process of reünion truly consists, 1, in the formation of a capsule surrounding the fractured extremities by thickening and condensation of the neighbouring tissues; 2, the deposition of bone in this capsule, and in the medullary canal; 3, the growth of bone from the surrounding osseous surfaces until the cavity is completely obliterated. The second stage is generally so far completed in from three to six weeks, that the limb regains its rigidity sufficiently to resist any moderate force, and the cure is then said to be completed; but the real cure requires at least as many months. The case that has just been related affords a striking illustration and confirmation of this process; since, if it were not for the provisional callus or bridges of new bone connecting the external edges of the fracture, the bone would still be flexible; and, in fact, one of the halves is flexible from the section having been accidentally made so as to leave the bridge more on one side than the other.—*Ibid.*

43. *Ununited Fracture of the Humerus—Excision of the ends of the bone—Phlegmatia dolens of left thigh and leg—Recovery.*—An interesting case of this is recorded by J. SYME, Esq. in the *Edinburgh Medical and Surgical Journal* for July last. The subject of it was a farmer æt. 50, who came under Mr. S.'s care on the 7th of February. "He stated that two months before, his right arm had been broken by the wheel of a cart passing over it, that splints and bandages were applied, and that he was confined to bed for a fortnight. The splints were kept on for four weeks longer, during which he was allowed to walk about with his arm in a sling. It was then found that union had not taken place, and that the arm was perfectly useless, in which state it still remained. On examination, I found that the bone had been broken very obliquely; the lower end of it lay directly under the skin on the outer side of the biceps, and the upper one was felt quite on the opposite side of the limb, imbedded among the muscles. The limb could be bent in all directions at the fractured part, and the broken extremities were so perfectly moveable that it was evident no bond of union existed between them. To ascertain if any disposition to repair the injury still existed, I surrounded the limb very tightly with straps of adhesive plaster, then bandaged it firmly with a roller, and, lastly, applied pasteboard splints. At the end of a fortnight, the state of the arm was found precisely the same as it had been previous to this trial, and it became necessary to decide on some more efficient means of relief.

"I have seen the want of union, both in fracture of the humerus and in that of the forearm, attended with hardly any inconvenience, the bone having been broken transversely, and the muscles being equally balanced, so that though the limb was quite flexible at the injured part, in a state of repose, it could execute every exertion it was called upon to perform. In this case, however, owing to the obliquity of the fracture, the limb was entirely powerless, and the patient declared that, rather than be troubled with such a useless load, he would submit to amputation. Before resorting to this last remedy, it seemed proper to try some means for uniting the ends of the bone. The seton was the mildest that could be employed for this purpose, but the case did not appear suited to it, since it is only when the process of reünion has made some progress that the irritation thus occasioned can be of any service. From the extreme mobility of the broken surfaces, it was apparent that nothing lay between them likely to be converted into bone, and therefore the only method of affording relief was limited to the operation of cutting off the ends of the bone and placing them in contact.

"On the 24th, an incision about two inches in length was made near the lower

end of the bone, which was readily exposed, so as to have the rounded extremity removed by a saw. The other end was then sought for by cutting towards the part where it was felt, from the former wound. The depth of its situation prevented the application of the saw, but the cutting pliers proved sufficient to divide it. A splinter, about two inches in length, was thus detached from the shaft, and as its removal threatened to be attended with difficulty, it was allowed to remain, in the hope that union might be promoted by its presence. Pasteboard splints were applied, with proper bandages, and the patient was confined to bed. Great part of the wound healed by the first intention, a portion of it at the centre only remaining open and discharging a small quantity of matter. The patient suffered hardly any pain, and no constitutional disturbance. The dressing was changed every second day.

"On the 8th of March the patient felt rather hot and uneasy, and at 10 o'clock at night suddenly complained of intense pain in the left groin and calf of the leg. Very soon afterwards the thigh was observed to be swelled and painful to the touch. Next day the limb was much enlarged from the groin to the ankle. It was tense, elastic, and very sensible of pressure, especially in the course of the *femoral* vein, where an induration was distinctly perceptible. The bowels were moved with difficulty after repeated purgatives and injections. In the evening and during the night, he had very frequent black vomiting. Pulse 150. On the 10th, the vomiting was succeeded by a nearly incessant and violent hiccup. A blister was applied to the epigastrium. On the 11th the hiccup still continued, and the state of the limb remained the same. Twenty leeches were applied to the groin. On the 12th, the pain and tension were diminished, and by the 15th were nearly gone. In addition to the treatment which has been stated, it may be mentioned that mild laxatives were occasionally administered, and evacuations procured regularly by injections. The patient during the attack presented a very sunk appearance, and subsequently became much emaciated. For several weeks he could not assume the erect posture without feeling great pain throughout the affected limb. On the 3d of April he put on his clothes for the first time; and on the 12th it was found that the arm had acquired considerable firmness. On the 28th he went home, a distance of twenty miles, the arm being quite rigid, perfectly straight, and not perceptibly shortened. There was still a very slight discharge of matter, but this I understand has since nearly ceased.

"There being only three recorded instances of this operation proving successful in ununited fractures of the humerus since the case of Mr. White in 1760, I feel happy in adding another. The cases requiring it must be extremely rare, but when they do occur, it will be satisfactory to know that the cure may be thus accomplished even under circumstances rather unfavourable.

"But this case is perhaps still more interesting from the striking example it affords of an attack similar in all respects to the *phlegmatia dolens* of puerperal females occurring in a male. Other cases of the same kind are recorded, but none that I know of so well-marked. There can be no doubt, after the researches of Dr. Davis and other modern pathologists, that this very curious affection depends on inflammation of the great venous trunks; and it is not difficult to conceive why this should be apt to happen after the process of parturition. But what led to it in the present case cannot be so readily explained."

44. *Case of Uterine Polypus removed by the ligature, in which the dilatation of the Os Uteri was produced by the administration of the Lobelia Inflata.* By R. W. CHAPMAN, Esq.—The subject of this case is named Alice Longhorn, a dress-maker, aged thirty-two. She had experienced for about eight years irregularities in the menstrual discharge, frequently profuse, and accompanied with violent pains, resembling those of parturition in the hypogastric region. About the nature of her complaint she consulted several medical practitioners, who treated it as a case of *menorrhagia*, and consequently no particular benefit

was derived from their prescriptions. About two years ago she applied for my opinion. After relating the history and symptoms of her case, the probability of there being a tumour in the womb was suggested to her, and she was advised to submit to an examination *per vaginam*. On introducing the finger as far as, and within, the *os uteri*, the extremity of a smooth and solid tumour was perceptible to the touch, and the nature of the case was sufficiently obvious. In order to restrain the hæmorrhages, and mitigate pain, the horizontal position, mineral acids, and opium, were had recourse to; and the patient was advised to wait until the polypus should descend into the *vagina*. For the two years during which I attended her, I have frequently witnessed her labouring under violent and continued pains, so as to deprive her of sleep for several nights in succession; and in a state of *anemia*, owing to excessive hæmorrhages proceeding from the vessels of the *polypus* or of the *uterus*, which frequently rendered it difficult to restore her. Worn out with pain and feebleness, and being unable to follow her occupation, she prevailed upon me to attempt the removal of the tumour, though still confined within the body of the *uterus*. The patient was placed in a hot bath, so as to produce syncope, and a dose of the *Secale cornutum* was administered to her. As soon as she complained of the tumour producing a sensation of pressing down, the dilatation of the *os uteri* was attempted by means of the finger; the attempt, however, was not successful; but, on the contrary, whenever the *os uteri* was irritated by the dilating movement of the finger, it contracted so violently, as to render it impossible to proceed farther.

Some time afterwards, I consulted with Mr. Law, an experienced surgeon residing in Penrith, who advised me to try the effects of the *Secale cornutum* in small and repeated doses, and to endeavour to dilate the *os uteri* for a succession of days. This plan was adopted; but like the former attempt, it proved unsuccessful; for the *os uteri* became irresistably contracted whenever an attempt was made to dilate it.

It suddenly occurred to me that the trial of the *Lobelia inflata* might prove efficacious in overcoming the resisting contraction of the *os uteri*. I gave it to the patient in repeated doses, so as to keep up a slight degree of nausea; and after she had taken it for two successive days, on introducing my finger, I was astonished to discover the *os uteri* so completely dilated as to enable me to introduce with facility two fingers into the cavity of the *uterus*, and to examine the situation and magnitude of the *polypus* with a tolerable degree of exactness.

There was now no difficulty to oppose the introduction of the double *cannula*, which was conveyed along my fore-finger to the base of the polypus; one of the *cannulae* was then carefully pushed onwards as far as its neck, and maintained in that position until the other *cannula* was directed round the tumour and brought in opposition with the former; the two *cannulae* were then connected together by means of the rings at the extremity of the rod, and the cord tightened and fastened in the usual manner. The moment the ligature, which encircled the neck of the polypus, was drawn tight, the latter swelled to the size of a child's head, and immediately descended into the vagina.

The patient experienced much pain, which was evidently caused by the expellent action of the uterus; for the tumour appeared altogether insensible, as the constriction of the cord did not seem to produce any painful sensation. During the first four days after the operation, whenever the ligature was tightened, a quantity of greenish coloured fluid, at one time exceeding a pint, escaped from the vagina; and on the fifth day the tumour separated, and was easily brought away. It presented a fleshy appearance, and was surrounded by a flocculent membrane, and measured about eight inches in length, the diameter of its neck being an inch and a quarter; but it was so much softened by the process of decomposition that I could not examine the exact nature of its structure with any degree of accuracy.

No untoward symptom in the course of this period presented itself, nor was there any sanguineous discharge from the uterus. The patient was immediately

put upon a generous diet, with the use of tonics. About ten days after the removal of the tumour, she had her menstrual discharge, which continued for two days in a natural state as to quantity and colour, without experiencing any pain; and, although a month has only elapsed since the operation, she has so far recovered as to be able to take exercise in the open air.—*Edinburgh Med. and Surg. Journ. July, 1835.*

45. *Large Tumour of the Labium Pudendi—Removed.* By CHARLES CASWALL.—Some time ago, application was made to me by a poor woman, that I would visit her daughter, æt. 22, who was suffering great pain and inconvenience from “a swelling in the left groin.” I found, on examination, that the case was somewhat of a different character from what I expected from the mother’s description.

Enveloped in a napkin was an enormous fleshy excrescence, (as large as a child’s head two or three years old,) suspended by a neck three or four inches long, and as many wide, from the left labium pudendi to between the knees. The tumour was of the warty or cauliflower kind, and had its origin, (as the young woman supposed,) from a bruise she received on the part when she slipped down, about eight years previous. It appeared first as a red pimple, which gradually and slowly increased in size until she became pregnant, (which was about a year and a half before my seeing her.) During pregnancy it grew very rapidly, and at the time she was delivered of her child it was about the same dimensions as I have described above, and the neck sufficiently long to enable the accoucheur to place it over the left thigh, a procedure which prevented any inconvenience arising from it during delivery.

After her accouchement, and nearly up to the period of my first seeing her, she had generally been in the habit of pursuing her avocations, suspending the tumour in the best way she could. Latterly, however she had been accustomed to go out of doors only in the evenings, when she could not be easily recognised, and at such times supporting the burthen, (which was turned up under her dress as high as the umbilicus,) in her hands.

A most disagreeable and offensive exhalation issued from the tumour, and a considerable exudation of slimy mucus-like matter from between its lobulated structure; altogether rendering her existence nearly insupportable. The mother stated that her daughter had been married about twelve months, and her child was nine months old; but I was not able clearly to comprehend if she had led an immoral life or not. I was informed she was not one of the “*unfortunates*.” She had had no particular medical or surgical advice for her case, neither had the tumour been seen for a considerable time by any physician or surgeon. I recommended the removal of it; she immediately consented, and on the second morning afterwards I performed the operation with a scalpel. There was considerable hæmorrhage during the operation, but it was not found necessary to apply more than two ligatures. The edges of the wound were brought together with three sutures and adhesive strapping; it healed by the first intention, and seventeen days after the operation the young woman was employed in her usual occupations.

The internal appearance of the lobes of the tumour is that of medullary sarcoma, with spots here and there, of a hard, fibrous, and gristly character.

The interest of this case is derived from the infrequency of its occurrence, the immense size and length of the tumour, its existence anterior to and during pregnancy and delivery, and the uncertainty whether it derived its origin from venereal infection or not. I have not met with a similar case on record. Elongations of the clitoris and nymphæ are comparatively common, and the generative organs of the male, we know, increase to an enormous magnitude. The mother’s declaration would refute the idea that this case was of venereal origin; but that the poor woman was not immaculate is evident, inasmuch as three months after marriage, she gave birth to a child.—*London Med. Gaz. April 18th, 1835.*

46. *On Excision of Diseased Joints.*—Professor SYME has communicated to the Anatomical and Physiological Section of the British Association for the Advancement of Science, (*Fourth Report*,) a memoir, the object of which was to prove by actual demonstration that the two great objections which have been urged against the operation, however specious in theory, are not supported by experience. These objections he stated to be, 1st, that the diseased bone could not be completely removed by excision, so as to afford a perfect and permanent cure; and, 2d, that the limb preserved by the operation must be nearly or altogether useless to the patient. In reply to the first of these objections, he produced a woman, forty-four years of age, who eight years ago had the shoulder-joint removed, on account of caries in the head of the os humeri which had existed for six or seven years, and reduced her to an extreme degree of weakness. The head of the bone, completely hollowed out by disease, was exhibited, and the woman showed that while her general health and strength were quite restored, there was hardly any perceptible difference in the utility of her arms. He also placed before the meeting a boy who had his elbow-joint excised between five and six years ago, on account of caries which had existed twelve months. The articulating extremities of all the bones entering into the formation of the joint were exhibited; and the boy proved, by free and varied movements of his arm, that he retained completely the power of flexion, extension, and rotation of the elbow, without any diminution of strength. In reply to the second objection, he stated that it seemed to be grounded on the difficulty of conceiving how the tendons, after being cut away from their attachments, could again adhere to the bones so as to move them in obedience to the action of the muscles, and on the erroneous idea which generally existed as to the changes that occur between the osseous surfaces subsequently to the operation. In order to show that when tendons have their attachments divided they readily acquire new ones, so as to perform their usual offices, he brought forward a patient who had suffered Chopart's amputation of the foot for caries of the tarsus and metatarsus, and who consequently, having only the os calcis and astragalus remaining, had had all the tendons opposing the extensors of the ankle divided, but who nevertheless retained completely the power of bending and extending the joint. In respect to the changes which take place between the osseous surfaces after the operation of excision, he stated that ankylosis could not be induced unless the limb was kept perfectly motionless; and that the bones almost invariably became united, not by any structure analogous to a joint, but by means of a fibrous substance possessing such thickness, strength, and flexibility as to preserve the shape and firmness of the limb, and allow a proper degree of motion in the seat of the joint. A specimen of this structure was exhibited in the case of an elbow-joint which had been dissected about twelve months after the performance of excision. Having made these remarks, he submitted to the meeting the positive evidence afforded by several persons in addition to those already exhibited, in all of whom the operation of excision had preserved limbs hardly, if at all, less useful than they were before suffering from the disease.

47. *Hydrocephalus unsuccessfully Treated by Tapping.*—FRANCIS COOPER, Esq. has recorded in the *Lancet*, (June 27th, 1835,) an example of this. The disease was congenital. At birth the circular measurement of the child's head was seventeen inches, and the occipito-frontal twelve inches. All the bones of the head were disunited, and the fontanelle much distended. The operation was first performed at the end of the second month, at which time the circular measurement had increased to twenty-three inches, and the vertical to twenty-one inches. A puncture was made with a lancet a little to the left of the great longitudinal sinus and just above the occiput. Twenty-eight ounces of water flowed from the wound, and a considerable quantity continued to ooze from it for two or three days after the wound closed. For some days after the operation, except the two or three immediately following, the child seemed better; but

after the lapse of a fortnight the head was as large as ever. Tapping was again tried, but without relief, and after this last attempt, the child gradually sank, and in a week died.

48. *Ligature of the Brachial Artery at the Bend of the Elbow.*—Professor GRAEFE, is of opinion that the method of Hunter, however advantageous in general, ought occasionally to be deviated from. He has cited an instance in which the brachial artery had been wounded in bleeding. He did not see the patient till three days after the accident, at which time the arm was swollen, tense, of a livid red, and very painful when pressed. In this case the tumefaction of the member would have presented an insurmountable obstacle to the ligature of the artery at the usual place—the internal margin of the biceps. M. Graëfe therefore preferred operating at the bend of the arm, because there the jet of blood would serve as a guide to the artery, which was accordingly tied above and below the wound in its coats. The patient was dismissed cured at the end of a month.—*Gaz. Med.*

49. *New Caustic for the Treatment of Cancerous Diseases.*—This new therapeutic agent proposed by M. RECAMIER, and which he is now employing with advantage in several cases at the Hôtel-Dieu, consists of a solution of chloride of gold in aqua regia. It is prepared as follows:—℞. Acid. nit. muriat. ʒj.; Chlorur. auri. pur. gr. vj. solv. It is employed in the same manner as other liquid caustics. A piece of lint is dipped in the solution, and the diseased surface cauterized with it. The cauterization ought to be deep, and form a eschar, which is detached in three or four days. After it has fallen off, the cauterization must be repeated, and for six or eight times, according to the extent of the ulcerated surface and the depth of the lesion. The action of the caustic is not painful; its action is entirely local, and in both these respects it offers incontestable advantages.—*Lancette Française, June 9th, 1835.*

50. *Prolapsus Ani Cured by Nux Vomica.*—Dr. SCHWARTZ, in an article in a late number of *Hufeland's Journal*, asserts that the nux vomica is a specific remedy for prolapsus ani. When the disease occurs in very young children, he administers a solution of one or two grains of the extract in two drachms of distilled water, and gives six or ten drops every four hours. The disease is generally cured, he asserts, on the following day. When the child is older, he gives fifteen drops, and continues the medicine eight days after the cure, to prevent a relapse. Children at the breast require very small doses, two or three drops of the solution. When the prolapsus has existed for some time, he adds a few grains of the extract of rhatany as an astringent.

51. *Fracture of Clavicle.*—Mr. SYME has recorded in the *Edinburgh Medical and Surgical Journal* for July last, a case of this accident, in which the position of the broken surfaces of the bone were completely reversed from the usual one, viz. the acromial extremity was elevated above the sternal one, requiring no inconsiderable force to urge them to the same level; and even when the cure was completed, the sternal extremity lay rather below its fellow.

MIDWIFERY.

52. *Cæsarean Operation.*—Dr. REUTER has communicated to the *Heidelberger Klinische Annalen*, (Vol. X. No. 3,) some observations on the Cæsarean operation in a living female compared with the same operation in a woman who died suddenly at the full period of gestation. The woman who was the subject of the first case, and who was operated on in consequence of malformation resulting from rickets, lived but eight days, when she died of metro-peritonitis. The

infant was extracted alive. The second operation was performed on a woman who had died; the child was also dead.

These two cases present nothing interesting, except the following comparative results. Whatever may be the difficulty of ascertaining the indications for the Cæsarean operation on a living woman, this difficulty is much greater when the operation is to be performed on one who has died suddenly. In this last case the indications depend upon the certainty we can arrive at, of the life of the infant and the death of the mother; but certainly as regards this last, cannot be attained within the period during which it is necessary to perform the operation, in order to save the child; unless, indeed, the life of the mother has been destroyed by some evident external cause. The extreme limits of the period alluded to, is three hours after the apparent death of the mother. As respects the certainty of the life of the infant in a woman who has died suddenly, there are greater difficulties at arriving at it, than in a living woman, who may by her sensations furnish us some indications; moreover, the infant participates more or less in the disease which precedes the sudden death of the mother; its movements are more feeble, and less sensible in consequence of the want of reaction in the uterus. The operation also offers in the second more difficulties than in the first. In fact, in a woman who has suddenly died, or who is in a state of apparent death, the blood stagnant in the vessels, escapes with more facility, and gives rise to considerable effusions, a circumstance which, with the state of inertia and flaccidity of the uterus, renders the hand of the operator less certain, and becomes in case of apparent death, one of the most unfortunate complications. In the living woman, on the contrary, the uterus is firmer, and arrests hæmorrhage by its contractions, better than any hemostatic, and hæmorrhage is also less to be feared, because the veins are less distended.

53. *Report of Cases in the Lying-in Wards of La Charité, Berlin, in 1832.*—There were in these wards on the 1st January, 1832, remaining from the previous year, 22; delivered in hospital in 1832, 249; delivered outside, 11; making, 282. The number of children born was 252, 135 boys and 117 girls,* or as 1.16 to 1. The first position of the head was observed in 183 presentations, the first position of the breech in three, and the transverse position in five. In all except a very few cases, the placenta came away within from five to twenty minutes after the child's birth. In 220 cases, labour was completed without any assistance, except the support given to the perineum; in 24 the forceps was applied, and in five cases version; hence the proportion of natural to artificial labours was 220 to 29; nearly as 7.6 to 1.

The diseases and accidents which complicated the patients' state after delivery were very numerous; thus we find 24 cases of uterine hæmorrhage; 11 of metritis; 10 of puerperal fever; 2 of puerperal mania; 51 of various febrile affections; inversion of the uterus 1; putridity 1; mastitis 12; rupture of the perineum 5.

The frequency of inflammatory and febrile affections after delivery depended upon an epidemic constitution; and metritis was generally the result of artificial labour. Puerperal fever occurred under such different circumstances and times, that it was impossible to refer it to any epidemic cause.

The following were the most remarkable affections of the new-born children. Asphyxia 15; icterus 30; induration of the cellular tissue 13; inflammation of the eyes 37; aphthæ 22; convulsions 5; pneumonia 3; eclampsia 3. Twenty-three children were born dead, and 30 died during the convalescence of the mother, viz. convulsions 5; eclampsia 3; apoplexy 1; pneumonia 3; induration of cellular tissue 9; atrophy 7.

On comparing the several numbers of births, deaths, diseases, &c. we obtain the following proportions. Births, to number of deaths and children born dead, 252: 53 = 4.8 = 1; births to children born dead, 252: 23, or 10.95: 1; births to deaths soon after birth 252: 30, or 8.4: 1.—*Rust's Magazin. No. II. for 1835.*

* From a comparison made in France of more than fifteen millions of births, it would appear that the proportion of males born to females is as 17 to 16.

MEDICAL JURISPRUDENCE.

54. *Accidental poisoning of three negroes by Cantharides.*—The following interesting account of the accidental poisoning of three negroes by cantharides, has been communicated to the *Jamaica Physical Journal*, for May, 1835, by JAMES MAXWELL, Esq. Surgeon to the Annotto Bay Marine Hospital.

“Three healthy robust negro men, on Fort Stewart Estate, had a bottle of rum brought to them by a young man who stole it from the overseer’s house, in which six drachms of finely powdered cantharides had been macerated eight hours previously, to apply to the ring-bone of a horse. The person who stole it tasted it, but not relishing the draught, carried it to his friends, and informed them that he had found a bottle of bitters, which the white people occasionally used, and as he was not fond of bitters, they might share it amongst them. This happened about 8 P. M. in fine moonlight, and it was divided as equally as possible, by each person putting the bottle to his head, and taking what he considered to be his share. R. Pollock had eaten a hearty supper before he partook of it; the other two drank it upon empty stomachs, and ate their supper immediately afterwards. Shortly after they complained of sharp lancinating pain of stomach, burning sensation of the throat, with great nausea, which increased, and in a couple of hours they were seized with violent retching; the contents of their stomachs were mixed with blood, mucus, and froth.

“The kernels of six antidotes (*Feuiella Cordifolia*) were boiled in a pint of water, and given to each by the black dispenser, which acted as an emetic.

“17th. I saw them early next morning. They are all complaining of excruciating burning pain in the region of the stomach; surface covered with cold clammy sweat, sense of constant burning of the throat, most intense at the top of the œsophagus, and descending along that passage to the stomach. There is great difficulty in swallowing, and to use the significant expression of one of them, his throat is on fire. There is great depression of the vital powers*—they are incessantly moaning, and consider death to be inevitable; pulse accelerated about twenty beats in a minute, and rather weak. The breathing is not difficult, nor do they complain of any irritation of the urinary organs; no pain or tension of the abdomen: the bowels have not acted since they took the poison. The vomiting recurs at intervals, and they eject frothy mucus in great quantity tinged with a vermilion colour. They are regularly salivated, spitting incessantly a mixture of mucus and saliva of a pink colour. The throat of each was examined, and found to be swollen: had an erysipela-tous blush of inflammation with turgid veins running across the fauces. To be perfectly satisfied that every particle of the powder was removed, I administered twenty grains of the sulph. of zinc to each, which acted instantaneously; they drank copiously of warm water, and after their stomachs were settled, three ounces of fine olive oil was given to each, which they retained. Ene-mata of the infusion of ochro, (*Hibiscus esculentus*,) with castor oil, ordered to be exhibited frequently, and the infusion to be drank ad libitum.

“The contents of the bottle were kept for my inspection; I had the dregs strained through blotting paper, dried in the sun, and ascertained that they had swallowed three drachms of the powder, and the whole of the rum, in which the cantharides had been macerated.

“1 P. M. They have had no recurrence of vomiting. One of them has had a copious alvine dejection, unmixed with blood. The symptoms continue the same as in the morning, with the exception of the stomach, which is less irritable. Two ounces of fine castor oil prescribed for each.

* “Cantharides in powder, taken into the stomach, acted as a corrosive, producing vomiting, the discharge of much bloody mucus, depression of the vital power, and death.

“The stomach is always violently inflamed, and the bladder sometimes.”—*Orfila, Traite de Poisons*.

"Evening visit.—The oil has operated on all; no blood has been passed by stool; they spit mucus and saliva tinged with blood incessantly. They complain of unremitting acute burning pain of stomach, with great difficulty of swallowing; thirst not urgent. Pulse of Pollock and Buchanan, 100. Mackintosh 80; no strangury. Blooded to eighteen ounces. Applic. emplastr. lyttæ. regioni gastrici. The enemata were directed to be given occasionally, and the ochro tea to be used as common drink.

"18th. R. Pollock's blood exhibited no buffy coat; oil operated freely, and since the emetic, has had no irritation of stomach. There is neither blood in his stools nor urine, but he now complains of severe strangury, and the urine comes away in small quantities. The gastric symptoms are not so urgent; throat still painfully affected, inflamed and covered with coagulable lymph. He is constantly spitting a frothy matter mixed with blood; great thirst; no heat of skin; pulse 104, regular and full; tongue highly furred with red edges. There is no fœtid smell of the breath; the gums are red and swollen, and he states the pain to be most severe at the top of the œsophagus, diminishing as it descends to the stomach.

"George Buchanan.—Pain in the region of the stomach abated; throat very painful, with tumefaction of the tonsils, and relaxation of the uvula; the palate is suffused with a slight vermilion blush, deepest towards the fauces. The irritation of the bladder not so great as in Pollock; pulse 108, full; tongue furred and red at the edges; great difficulty of swallowing, with occasional eructations of sour frothy mucus, tinged red.

"R. Mackintosh.—Gastric pain moderated; throat very painful, with difficulty of swallowing; tonsils swollen; uvula lengthened as in cases of catarrh; foul tongue with red edges; pulse 104; no fever; strangury very troublesome; continues to spit constantly, with an occasional eructation of frothy mucus, which he says is as sour as 'lime-juice.' The oil was repeated—fomentations to the region of the bladder, with opiate, glysters, and warm bath.

"19th. Pollock.—Pain of stomach much relieved; throat swollen, and on the back part of the fauces there is an aphthous ulcer the size of a sixpence, covered with a whitish adherent crust, another of the same description on the side of the right tonsil. Sublingual glands slightly inflamed and tumefied; gums red, with a copious secretion of saliva, which causes his mouth to stream as if he was under a course of mercury. Pulse 98, soft and full; strangury excessively severe; he passes his urine guttatim, and to use his own expression, it burns him 'like a pepper.'

"Mackintosh.—Describes the pain of stomach to be rather severe to-day; pulse 120, with thirst; no febrile heat; gums and inside of the mouth inflamed and ulcerated, and he says that he feels exactly the same as he did when lately salivated with mercury, only has no coppery taste in his mouth; throat still inflamed; difficulty of swallowing great; strangury troublesome.

"Buchanan.—Feels better; throat still inflamed; pulse 100; completely salivated with ulcerated gums; strangury much alleviated.

"20th. There is an amelioration of all the symptoms: the strangury has left Buchanan; the other two are still slightly affected with it; the salivation continues in all.

"21st. They are improving.

"24th. Strangury gone; salivation abating; throat and mouth getting better. From this time they gradually recovered, and in two weeks were perfectly well.

"The recovery of these persons from the effects of an highly corrosive substance, may be considered a fortunate circumstance, and in a great measure may be attributed to the speedy ejection of the poison from the stomach. Not less than a drachm of cantharides, mixed with about six ounces of rum, could have been taken by each of them, but as they filled their stomachs with their favourite supper meal, its effects were not so immediately palpable as it other-

wise would have been. They admitted that the stolen liquor had rather a nauseous taste, but as it was given to them as bitters used by the white people, they shared the prize, and soon afterwards began to suspect that they had been imposed upon. The pain increased rapidly, but conscious of their guilt, they were afraid to call for assistance till they could no longer conceal it, but so soon as severe vomiting commenced, they suspected that they had drank a poisonous liquid, became alarmed, and told the truth.

"The antidote, a favourite remedy amongst negroes for all such accidents, was administered, and its over-dose acted as a powerful emetic, relieving the stomach of its entire contents. Not satisfied with what had been done previous to my arrival, I immediately gave an emetic to ensure the complete ejection of the poison, and directed large quantities of the bland mucilaginous infusion of ochro, to be liberally used, with oil to sheath the coats of the stomach from the escharotic effects of the cantharides.

"Magendie has warned us against exciting the activity of the absorbents by venesection, in cases of poisoning, and following the recommendation of that distinguished physiologist, I abstained from abstracting blood, till I had reason to think that the powdered cantharides was effectually removed by vomiting and purging. It was not till towards night, when the gastric symptoms assumed an alarming aspect, and threatened active inflammation, that I had recourse to the usual efficient means of subduing it. The throat was early affected with inflammation, and the red excoriated state of the tongue may have been occasioned by a few particles of the powder having lodged there.

"It is a singular circumstance, that previous to venesection, not one of them had the least irritation of the urinary organs; but very soon afterwards they were seized with a very severe form of spasmodic strangury, attended by severe scalding, long before it could be presumed that the blisters could effect such a result.

"It is well-known to those conversant with negroes, how partial they are to blisters; for the most trifling ailments, and how little susceptible they are of strangury; for in ninety-nine cases out of an hundred, that highly painful affection is unknown amongst them from the absorption of blister-flies. It is reasonable, therefore, to infer, that the application of the blisters had little, if any share in exciting the vesical irritation, but that the agency of the absorbents was increased by lessening the circulating fluids, so as to produce the phenomena in question.

"I may here remark, how fallacious are all those agents, so confidently recommended for alleviating the excruciating sufferings from strangury. I never found camphor, either sprinkled on the blister, or given in large doses, of the least utility. The only remedies which offer any positive relief in severe cases of strangury, are anodyne glysters, flannel wrung out in hot water, to which laudanum has been added and applied over the pubis, with the administration of an opiate, where circumstances will admit."

55. *Poisoning by Sausages.*—It appears that cases of poisoning by bad sausages and puddings are pretty frequent in certain districts of Wertemberg, in the neighbourhood of the Black Forest. In the Heidelberg Chemical Annals there is a great number of such cases related by Dr. Bodenmüller, who observed them in the winter and spring of 1834. The symptoms were most alarming, and several individuals died; the puddings they had eaten was chiefly composed of liver, and had become sour. The sausages that had caused poisoning were clotted and reduced to a kind of pap in the centre, were exceedingly bitter and rancid in taste, and cheesy in smell. Vomiting should be immediately induced, or if already effected, a purgative draught of Glauber's salt, and clysters of vinegar and soap should be had recourse to.—*Ryan's Lond. Med. and Surg. Journ. January 31st, 1835.*

CHEMISTRY.

56. *Picamare and Pittacalle*.—M. REICHENBACH has succeeded in separating the substance that gives bitterness to the products of the empyreumatic distillation of organic bodies, and has bestowed the appellation *picamare* (*in pice amarum*) upon it. This matter has the consistence of a somewhat thick oil, is fatty to the touch, colourless, limpid, and transparent; its odour is weak and not disagreeable; its taste is at first of a burning, intolerable bitterness; then cool like that of peppermint. This coolness remains a long time after the bitterness has passed off. We will not enter into all the details given by M. Reichenbach as to its physical and chemical qualities and its preparation, as it has not yet been tried as a therapeutic agent. Mr. R. thinks that it is very likely a powerful remedy. He is also of opinion that from its slight volatility, its tolerable consistence, and its feeble affinity for oxygen, it is a principle of fatty bodies extracted from tar, which, after *paraffine*, promises the greatest capability of application to the arts. It might, perhaps, be used to oil delicate machines, and preserve steel-manufactured articles from rust, being in this a substitute for the brown paper prepared from old tarred ropes.

If to a solution of impure picamare in fifty parts of alcohol, or of tar-oil freed from its free acid by liquid potassa, a few drops of barytes water be added, the liquid immediately becomes of a beautiful blue colour, which passes to an indigo blue in the course of a few minutes. This is owing to the presence of a new blue substance, to which M. Reichenbach has given the name of *pittacalle* (ex *πιττα* pitch, and *καλλει* beautiful.) This matter in a mass strongly resembles indigo in appearance. M. R. has investigated it most minutely in its physical and chemical properties, and has no doubt that the discovery is important as regards the art of dying, and that pittacalle may be used as advantageously as indigo.—*Journal de Pharmacie*, June, 1834.

57. *Analysis of Milky Blood*. By LE CANU.—The French Lancet, for 23d April last, contains the following analysis of some milky blood drawn from the arm of a person, who, after a party of pleasure was attacked with a general malaise and sense of great suffocation, accompanied with vomiting of blood.

Water	-	-	-	-	-	794.0
Albumen	-	-	-	-	-	64.0
Fatty matters,						
Savon acid,						
Cholesterine	108					
Oleine	-	-	-	-	-	117
Margarine,						
Stearine,						
Salts and extractive matters			-	-	-	25
Traces of colouring matter,						
						1000

In this blood then, the water and albumen were in nearly the same proportions as in healthy blood; whilst on the contrary the fibrine and especially the colouring matter had almost entirely disappeared. The globules were replaced by a corresponding amount of fatter matters, among which the savon acid and the cholesterine exists in healthy blood; whilst the oleine, the margarine, and the stearine do not exist or at least have never been detected. The remarkable appearance of the blood in this case, evidently arose from the presence in a large proportion of fatty matters, held in suspension in the aqueous fluid by assistance of the albumen.

This condition of the blood has been noticed by CAYENTOU, (*Journ. de Phys.* xiv. 627,) and by RASPAIL, (*Chimie Organique*, p. 381.)

58. *New Organic Principle*.—Dr. REICHENBACH, in continuing his researches into the products of the distillation of organic bodies, has separated a new oily substance, which is very distinct from the eupione, creosote, &c. This substance is extracted with great difficulty; the author calls it *capnomore*, because it is particularly found in the smoke of organic bodies destroyed by fire. In its pure state the capnomore is a transparent colourless fluid, with an agreeable odour resembling rum-punch; it is of the specific gravity of 0.9775, at 20°; it boils at 185°, and does not freeze even at 21°. It evaporates without leaving any residue, and is not a conductor of electricity. It acts as an acid with the vegetable bases, and as a base with sulphuric acid and the salts. The substance is distinguished from the creosote and picamare by its taste, its insolubility in alkalies and acetic acid, and the facility with which it dissolves gum-elastic. It differs from eupione by its specific gravity, boiling point, &c. The capnomore is found in soot, particularly that derived from the beach-tree, and in the animal oil of Dippel.—*Journal de Chim. Med.*, No. 4, 1835.

59. *Analysis of Iodide of Iron*.—According to a recent analysis by Mr. J. D. SMITH, given in the *London and Edinburgh Philos. Mag.* for August last, the iodide of iron is composed of—

1 equivalent of iodine	-	-	-	-	-	-	-	126
1 " iron	-	-	-	-	-	-	-	28
5 " water	-	-	-	-	-	-	-	45
								199

MISCELLANEOUS.

60. *Effects of the Atmosphere on high Mountains*.—M. BOUSSINGAULT has communicated to the Royal Academy of Sciences a memoir on this subject. M. B. in company with Dr. Hall, has reached on Chimborazo the elevation of 6.006 meters, the highest elevation yet reached on mountains. The barometers descended to 13 p. 8 lines. The temperature of the air in the shade was 7.080.

M. B. thinks it possible to become acclimated to rarefied air. Thus at a height almost equal to that of Mont Blanc, where the celebrated Saussure scarcely had strength to consult his instruments, young American women dance whole nights. A celebrated battle in the war of independence, that of Pichincha, was fought at a height nearly equal to that of Mont Rose. The guides who accompanied de Saussure on Mont Blanc asserted, that they had seen the stars in clear daylight. M. Boussingault, who has attained a greater height, has never observed that phenomena.—*Archives Gen.* December, 1834.

61. *Importance of Ventilation*.—An abstract of a registry kept in the Lying-in Hospital of Great Britain street, Dublin, from the year 1758 to the end of 1833, by the late Dr. Joseph Clarke of Dublin, was communicated to the Anatomical and Physiological Section of the British Association for the Advancement of Science, which illustrates in a very striking manner the importance of thorough ventilation, and the great diminution of mortality among the children in this hospital since that object has been attended to. It appears that during the seventy-five years mentioned, relief has been afforded to upwards of 129,000 poor women; that in 1781 every sixth child died within nine days after birth, of convulsive disease; and that after means of thorough ventilation had been adopted, the mortality of infants, in five successive years, was reduced to nearly one in twenty.

AMERICAN INTELLIGENCE.

Notice of a Case of Urinary Calculus, in which Dr. J. Randolph successfully performed Lithotripsy. By I. HAYS, M. D.—Our number for November last, contains an account by our friend Dr. Randolph, of six cases of stone in the bladder, in all of which he successfully performed the operation of lithotripsy. Dr. Randolph informs us that since furnishing us with that communication, he has performed the same operation in six other cases, and in all with entire success.

Having been politely invited by Dr. R. to assist him in his operations upon the last of these cases, it has afforded us an opportunity of collecting some notes in relation to it, which, with the operator's permission, we lay before our readers.

The subject of this case is one of our most respectable merchants, aged fifty-seven years, who dates the commencement of his complaint as far back as 1816; but it is only during the nine last years that he has had *marked* symptoms of urinary calculus. For two years his sufferings have been extreme, from spasms of the bladder, sometimes followed by profuse discharges of blood through the urethra, and from frequent and uncontrollable desire to urinate. He is often obliged to pass his urine every ten minutes, and the urgency of this call is so great that he is frequently compelled to satisfy it before he can open his dress, and he habitually wears a thick cloth to protect his clothes. His complexion and countenance are bad; and he has the appearance of one worn down by long and severe sufferings.

I saw this gentleman for the first time on the 28th of September, 1835. Dr. Randolph had previously sounded him, detected a calculus in the bladder, and had also ascertained by the introduction of bougies that the urethra was of sufficient size to admit Jacobson's *brise pierre*. The patient was not in a favourable condition for an operation, having had a chill the preceding night, and his bladder being so irritable that he was compelled to empty it a short time previous to our visit. Dr. Randolph however introduced Jacobson's instrument more particularly with a view of exploring the bladder, to ascertain its condition and the size of the stone, than with an expectation of being able to proceed further with the operation; but the stone being readily caught and the patient suffering less than was anticipated, the calculus was twice caught and readily crushed, before the instrument was withdrawn. It was not thought advisable to do more at this time, in the existing condition of the patient.

I again visited this patient on the 1st of October. He had passed since the operation, a considerable number of fragments of the calculus. These consisted of small granules cemented together, and presenting the appearance of a mulberry calculus. The patient thinks himself benefited by the operation. Dr. R. introduced Jacobson's instrument; this part of the operation occupied but five seconds; in five seconds more a calculus was seized. The stone was caught and crushed four times, the instrument freed from the adhering fragments and withdrawn, and the whole operation completed in a few seconds less than five minutes.

The patient was seen by me for the third time on the 15th of October. His general appearance was much improved, and he expressed himself as greatly relieved. He had passed a number of fragments since the last operation, and now thinks that there is one remaining too large to pass the urethra, as he states that he feels it occasionally entering the neck of the bladder, which causes him pain. Dr. R. introduced Jacobson's instrument, caught several times some fragments and crushed them.

At the request of Dr. Randolph, I this day, (Oct. 25th,) sounded the patient and could not detect any fragments in the bladder. The exploration did not

occasion the patient any pain. The appearance of the patient is now greatly improved, his complexion and countenance are good, his spirits excellent. He says that he is entirely well, can retain his urine four or five hours, and walk as actively as any one. It will be perceived that this case was completed by three operations, and in the short period of but little more than two weeks. From the quantity of fragments collected, we should suppose the stone was of the size of a small walnut.

We questioned this patient after each operation and again to-day respecting the pain he suffered from them. His answers have always been the same, that the pain "from the operation was nothing compared to what he often suffered from the spasms of the bladder." Indeed he never uttered a groan, or desired that the operation might be desisted from. He now says that the principal pain he experienced, was "during the working with the instrument," that as soon as this was stopped or the instrument withdrawn, all pain ceased, leaving only a slight smarting or soreness at the end of the penis. After each operation he experienced marked relief. We were particular in our inquiries respecting the pain suffered from the operation, and have stated the answers as we received them, nearly in the words of the patient, because, much difference of opinion exists on this point. It is one, however, not readily settled, inasmuch as we have no positive measure of pain, and moreover, its degree must vary in each case, according to the condition of the bladder, the sensibility of the patient to pain, and finally, it must depend in no small measure upon the kind of instrument employed and the skill of the operator. We must not conclude these imperfect notes without expressing the admiration we experienced at the neatness and skill displayed by Dr. R. in his manipulation, upon which in no small measure must depend his great success.

On the Use of the Pareira Brava in Irritable Bladder. By THOMAS F. BETTON, M. D. of Germantown. [In a note to the Editor.]

DEAR SIR—I am induced to ask you to give public mention of the use of a remedy, now much neglected, and which, as far as I can ascertain, has never been used in this country; namely, the Pareira brava.

From the high character given to it by Brodie, I was led lately to try its efficacy in a case of irritable bladder, which had resisted the usual means of treatment. It was used in the proportion of one ounce of the root to a quart of water, gently boiled down to one-half, of which a wine-glassful was taken three times a day. In about four weeks the patient was perfectly cured, and has continued so since.

According to the Dict. Univ. de Mat. Med. it was introduced into Europe, in 1688; and was much extolled by Helvetius as a lithontriptic. It is called *Cissampelos pareira*, and by the Spaniards, *Pareira brava*. It has been celebrated in former days as so powerful a lithontriptic, as to render useless lithotomy, and was so much esteemed by the Brazilians, as to be named by them the Universal Medicine. Its use in Europe seems to have declined, and Brodie, I think very justly, laments that such should be the case.

If in the next number of the journal, you would give a short notice of the article, that others may be induced also to try it, and thus confirm or disprove my observations, which indeed should scarcely be drawn from a single case, and but for the authority of Mr. Brodie, would not have been, it would gratify me.

Germantown, May 1st, 1835.

Case of Pleurosthotonos, or Tetanus Lateralis. By WILLIAM G. SMITH, of Port au Prince.—I was called on 20th of July, 1834, to visit a boy, named Zizi, who was reported to have always enjoyed good health until the evening before, when he fell sick, and has since become gradually "bent on one side." His parents being ignorant, attributed this state of things to *des ouangats*, (obiah,) and thought it the work of some of their enemies. I went immediately to the house,

where I learnt he was the son of an inferior officer in the Haytien service. Patient fifteen years old, strong and robust; muscular system well developed skin dry, except about the face and neck, as far down as the superior region of the chest, it was so much so, that I asked whether any fluid had been thrown on that part of his body. I was assured to the contrary, but at the same time, that he had been in that state since the night before. Several questions were put to the patient respecting his complaint and sensations, to all of which he replied rationally, but very slowly, with a kind of impediment, and as if suffering from acute pains. The details given me by his parents were, that he had always been a very active boy, and from birth enjoyed good health. That he had been latterly in the habit of aiding his mother on market days; the day before I had been called, he was quite well, and as usual, had carried on his head to and from the market, several baskets charged with fruit, vegetables, &c. Having remained in the market nearly the whole day, under a hot sun, he returned home about 4 o'clock, P. M. much heated and perspiring profusely; threw off his shoes, which he had not been in the habit of wearing constantly, and after having walked barefoot on the marble, or brick pavements of his chamber, for about a quarter of an hour, he suddenly complained of a sensation of chilliness, alternated with lancinating heat in his back, and the inferior parts of the abdomen. He was put to bed, received warm teas of various herbs, and some stimulating domestic remedies were applied to the surface of his body. In about nine hours after this sensation of chilliness, &c. there were succeeded to it a heaviness of the head, with a pricking, uneasy sensation, (not pain,) felt in all the limbs, particularly the legs and neck; the body assumed a singular lateral inclination, so that the patient was asked frequently why he laid in that posture, and his mother attempted once or twice, to place him in a different position. When I saw Zizi, he was lying in a manner not easily described, but partly on his back, and partly on his right side, the trunk of the body as if pushed out on the opposite or left side; the body presented one of the most curious morbid phenomenon imaginable, and as near as I am capable of comparing, it represented the figure 9. His friends said that about midnight, they perceived that his mouth watered, and he had occasionally attacks of crise, (spasms.) On close examination of patient, I found the skin hot and dry, except about the face and neck, as far down as above described; deglutition embarrassed; countenance pinched, expressing distress and suffering; pulse full, but not uncommonly rapid; heavy sensation of the tongue, which otherwise was little changed from what it might be in ordinary health; discharge of saliva from the mouth as if from mercurial agency; tightness experienced about the chest; pain at the extremity of the sternum shooting into the back; motion of body in general difficult and painful, every attempt to a change of position increased the muscular twitchings, or spasms with his suffering; neck and spine not as much affected as I had been accustomed to see it in the more common variety of tetanus. Abdomen tense and retracted; costiveness; muscles of abdomen and convex, or left side affected with spasms; body and lower extremity rigid and flexed towards the right side. The disease continuing to advance in spite of the most active means employed, the muscles of the neck and jaws at length became rigid; the organs of voluntary motion gradually ceased; the eyes became fixed, glassy and staring; countenance altered, strength exhausted; pulse irregular, at one moment full, quick, small, intermittent, and at last death closed the scene, at 8 o'clock in the evening, the disease having terminated its terrible career in about forty-four hours from its first development.

This case of tetanus is deemed worth relating; 1st, on account of its particular variety, pleurosthotonos or tetanus lateralis being of rare occurrence, so much so, as to have had its very existence suspected by Dr. Gregory, and other eminent authorities; 2d, the vague symptoms, with regard to the pulse, &c. from beginning to the end of the disease; 3d, the chilliness alternated by lancinating heat, &c.; 4th, local sweating, the increased secretion from the mouth, and the immediate or exciting cause of the disease.

Statement of Deaths, with the Diseases and Ages, in the City and Liberties of Philadelphia, during the year 1834.

DISEASES.	Males.	Females.	Boys.	Girls.	Under 1 Year.	1 to 2	2 to 5	5 to 10	10 to 15	15 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 to 90	90 to 100	100 to 110	110 to 120
Apoplexy	46	30	0	2	0	1	0	0	0	1	9	10	14	12	19	8	2	0	0	75
Abscess	7	5	5	2	3	1	1	0	1	1	0	2	1	1	0	0	1	0	0	12
Aneurism of Heart and Aorta	1	2	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	3
Carotid Artery	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Asphyxia	5	3	5	2	7	0	0	0	0	0	0	1	0	0	0	0	0	0	0	8
Asthma	6	4	0	1	0	0	1	0	0	0	0	0	4	1	2	2	0	0	0	10
Atrophy	57	39	54	32	48	24	10	4	0	0	1	3	2	0	3	1	0	0	0	95
Angina Pectoris	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2
Amenorrhœa	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Bronchitis	69	52	59	43	56	21	16	8	0	1	1	0	2	2	5	5	3	1	0	121
Burns	9	18	9	13	2	4	6	4	4	2	1	1	3	0	0	0	0	0	0	27
Consumption	322	314	41	61	23	20	14	8	3	34	190	143	90	53	34	18	5	1	0	636
Croup	47	34	47	32	32	16	22	9	0	0	0	0	2	0	0	0	0	0	0	81
Cramp of the Stomach	2	0	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2
Convulsions	157	120	143	114	200	23	25	4	2	3	4	10	3	3	0	0	0	0	0	277
Puerperal	0	3	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	3
Cancer	9	26	2	1	0	0	1	0	1	1	2	5	8	9	5	3	0	0	0	33
Cachexia	2	3	0	0	0	0	0	0	0	0	0	0	0	1	3	0	1	0	0	7
Caries of the Spine	2	0	2	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	4
Congestion	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
of the Brain	19	18	7	8	10	1	1	1	1	1	5	7	6	2	1	1	0	0	0	3
Lungs	6	2	3	0	2	1	0	0	0	0	3	0	1	0	0	1	0	0	0	0
Child-bed	0	5	0	0	0	0	0	0	0	0	3	1	1	0	0	0	0	0	0	0
Casualties	21	3	7	0	1	0	3	1	1	1	3	7	3	1	2	1	0	0	0	0
Concussion of the Brain	1	1	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Spine	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Colic	3	2	1	1	2	0	0	0	0	0	2	0	0	0	0	1	0	0	0	0
Chorea	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Compression of the Brain	1	1	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Cholera	100	51	7	5	0	1	4	3	2	2	23	31	37	26	14	2	1	0	0	0
Morbus	40	13	6	1	1	0	1	2	1	2	13	11	12	4	2	2	2	0	0	0
Infantum	206	171	206	171	248	101	23	5	0	0	0	0	0	0	0	0	0	0	0	0
Dropsy	44	59	16	12	4	2	7	7	1	7	7	18	12	13	12	12	1	0	0	10
of the Brain	100	98	99	97	80	59	36	16	5	0	1	1	0	0	0	0	0	0	0	19
Breast	26	25	4	8	2	1	4	2	1	8	9	4	8	6	4	0	0	0	0	5
Pericardium	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Debility and Decay	109	98	80	58	127	5	5	0	0	1	3	7	8	8	15	18	7	2	1	29
Disease of the Brain	14	13	10	8	6	3	3	3	2	1	3	1	2	2	1	0	0	0	0	0
Throat	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Chest	2	3	1	1	1	1	0	0	0	0	1	0	1	0	0	0	0	1	0	0
Lungs	3	1	2	1	3	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Heart	15	14	1	2	2	0	0	0	1	0	4	8	1	6	2	5	0	0	0	0
Stomach	2	4	0	0	0	0	0	0	0	0	1	1	1	0	2	1	0	0	0	0
Liver	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kidney	0	2	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0
Bowels	2	3	2	2	2	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0
Spine	1	4	0	3	2	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0
Hip	3	1	2	1	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0
Knee Joint	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Uterus	0	5	0	0	0	0	0	0	0	0	0	0	1	4	0	0	0	0	0	0
Bladder	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0
Glands	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Rectum	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Drowned	53	7	17	1	0	0	2	6	7	3	14	13	12	2	1	0	0	0	0	0
Dysentery	42	28	22	13	13	9	5	5	3	0	6	6	6	5	8	3	1	0	0	0
Diarrhœa	60	63	33	40	41	17	5	6	2	2	4	15	7	5	8	6	4	0	1	15
Drinking Cold Water	4	0	1	0	0	0	0	0	0	1	0	0	2	0	1	0	0	0	0	0
Diabetes	2	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0
Epilepsy	5	7	3	5	2	1	1	2	1	1	2	1	0	0	1	0	0	0	0	0
Erysipelas	10	10	5	2	5	2	0	0	0	0	2	3	2	2	2	2	0	0	0	0
Enlargement of the Heart	6	2	3	0	2	0	0	0	0	1	2	1	0	1	0	1	0	0	0	0
Breasts	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Spleen	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Eruptions	3	1	3	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exposure to Cold	2	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
Effusion on the Brain	6	1	0	0	0	0	0	0	0	0	2	1	2	2	0	0	0	0	0	0
Lungs	0	2	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0
Excessive Heat	13	3	0	0	0	0	0	0	0	0	2	7	6	1	0	0	0	0	0	0
Fever	23	12	15	4	6	4	3	2	0	2	7	2	7	2	2	1	0	0	0	0
Bilious and Remittent	25	33	11	15	2	3	6	4	3	8	12	8	2	5	2	3	0	0	0	0
Intermittent	2	1	1	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0
Carried Over	1726	1426	941	768	931	323	199	104	47	80	346	330	262	187	148	102	30	5	2	0

DISEASES.	Males.	Females.	Boys	Girls.	Under 1 Year.	1	2	5	10	15	20	30	40	50	60	70	80	90	100	
						to 2	to 5	to 10	to 15	to 20	to 30	to 40	to 50	to 60	to 70	to 80	to 90	to 100	to 110	
Brought Over	1726	1426	941	768	931	323	199	104	47	80	346	330	262	187	148	102	30	5	2	3148
Fever Typhus and Nervous	38	23	10	5	0	1	1	4	6	3	23	10	8	3	1	0	1	0	0	61
Scarlet	38	45	36	42	9	15	37	15	2	0	2	2	1	0	0	0	0	0	0	83
Puerperal	0	19	0	2	0	0	0	0	0	2	9	6	2	0	0	0	0	0	0	19
Hectic	4	1	1	0	0	0	0	0	0	1	0	3	0	1	0	0	0	0	0	5
Brain	1	2	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	3
Worm	1	1	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Congestive	1	1	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Peritoneal	3	2	0	1	0	0	1	0	0	0	1	1	0	1	1	0	0	0	0	5
Inflammatory	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Fracture of the Skull	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Fungus Haematodes	3	1	0	1	0	0	0	1	0	0	1	1	1	0	0	0	0	0	0	4
Gout	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
Gravel	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Hæmorrhage	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Hæmorrhage	18	16	7	4	8	0	2	0	0	1	5	5	10	2	1	0	0	0	0	34
Hooping-Cough	26	22	26	22	23	9	14	1	0	1	0	0	0	0	0	0	0	0	0	48
Hernia	3	3	1	0	0	0	1	0	0	0	1	0	1	0	2	1	0	0	0	6
Hydrophobia	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Inflammation of the Brain	1	1	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	2
Throat	65	39	45	29	24	18	16	4	7	5	6	9	9	3	2	1	0	0	9	104
Wind-pipe	12	7	6	6	3	2	4	2	1	0	3	2	0	2	0	0	0	0	0	19
Lungs	1	1	1	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	2
Breast	90	79	52	56	56	21	17	7	2	5	16	9	5	6	17	4	3	1	0	169
Heart	9	6	8	6	5	4	2	3	0	0	0	0	0	0	0	0	1	0	0	15
Pericardium	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
Liver	1	3	1	2	1	0	1	0	0	1	1	0	0	0	0	0	0	0	0	4
Stomach	20	17	4	1	3	0	1	1	0	0	6	9	6	5	6	0	0	0	0	37
Bowels	19	22	9	6	8	1	1	0	0	5	4	7	2	4	5	2	2	0	0	41
Kidney	62	49	32	20	26	10	8	3	3	2	16	19	6	8	6	3	1	0	0	111
Uterus	2	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	3
Bladder	0	2	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2
Mucous Membrane	3	3	0	1	0	1	0	0	0	0	0	2	1	0	1	1	0	0	0	6
Spinal Marrow	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Veins	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Introsusception	2	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2
Inanition	0	2	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
Intemperance	1	1	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Insanity	19	9	0	0	0	0	0	0	0	0	5	10	10	3	0	0	0	0	0	28
Irritation of the Brain	1	3	0	1	0	0	1	0	0	1	2	0	0	0	0	1	0	0	0	4
Spinal Marrow	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Intestines	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Injury of the Brain	2	2	2	2	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Abdominal Viscera	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Influenza	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Jaundice	2	1	1	0	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0
Laudanum to excess	6	4	4	2	3	2	1	0	0	0	0	1	2	0	0	1	0	0	0	0
Locked Jaw	3	2	2	1	3	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0
Mortification	7	2	3	1	1	0	0	1	0	2	1	1	2	0	1	0	0	0	0	0
Measles	17	7	7	3	3	4	1	1	0	1	3	3	4	1	2	1	0	0	0	0
Mania a Potu	3	4	3	4	1	0	5	1	0	0	0	0	0	0	0	0	0	0	0	0
Malignant	76	14	0	0	0	0	0	0	0	0	18	36	20	12	4	0	0	0	0	50
Murdered	7	5	7	5	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
Necrosis	2	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
Old age	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Ossification of the Heart	23	45	0	0	0	0	0	0	0	0	0	0	0	0	3	14	36	13	2	68
Arteries	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	2
Obstruction of Liver and Bronchi	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Palsy	1	1	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Pleurisy	22	24	0	1	1	0	0	0	0	0	3	3	9	12	6	8	1	0	0	46
Purpura Miliaris	5	6	0	2	1	0	0	0	0	1	1	2	1	2	3	0	0	0	0	11
Pemphigus	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Polysarcia	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Poison	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Rheumatism	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Rickets	5	7	1	2	0	0	0	0	1	2	2	3	1	0	1	0	0	0	0	12
Rupture of Blood Vessel	1	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
Aorta	2	3	0	0	0	0	0	0	0	0	1	2	1	1	0	0	0	0	0	5
Intestines	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Still-born	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Carried Over	174	134	174	134	308	0	0	0	0	0	0	0	0	0	0	0	0	0	0	308
	2542	2100	1393	1145	1340	415	328	149	71	116	480	480	366	256	218	133	84	21	4	4618

DISEASES.	Males.	Females.	Boys.	Girls.	Under 1 Year.	1 to 2	2 to 5	5 to 10	10 to 15	15 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 to 90	90 to 100	100 to 110	Total.
<i>Brought Over</i>	2542	2100	1393	1145	1340	415	323	149	71	116	480	480	366	256	218	138	84	21	4	4301
Small-Pox	118	77	69	57	47	16	36	14	7	6	45	14	6	3	0	0	0	0	1	163
Serofula	5	2	3	2	2	0	0	1	0	2	1	1	0	0	0	0	0	0	0	0
Syphilis	3	6	1	2	1	0	1	0	0	1	1	5	0	0	0	0	0	0	0	0
Softening of the Brain	3	2	0	0	0	0	0	0	0	0	1	2	2	0	0	0	0	0	0	0
Suicide	8	1	1	0	0	0	0	0	0	1	3	2	3	0	0	0	0	0	0	0
Sudden	11	10	3	3	5	0	0	1	0	0	2	2	4	2	1	2	2	0	0	27
Suffocation	5	1	2	1	3	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0
Scirrhus	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
of the Liver	1	3	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0
Stomach	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Pylorus	2	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2
Uterus	0	2	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	2
Prostate Gland	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Stroke of the Sun	7	1	1	0	0	0	0	0	0	1	1	3	2	0	1	0	0	0	0	8
Sarcoma, Medullary	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Stricture of the Colon	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Thrush	4	4	4	4	7	0	0	0	1	0	0	0	0	0	0	0	0	0	0	8
Teething	3	7	3	7	7	2	1	0	0	0	0	0	0	0	0	1	0	0	0	10
Tumour, Fungous	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
on the Throat	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Ulceration	2	2	2	0	1	0	1	0	0	0	1	0	0	0	0	1	0	0	0	4
of the Mouth	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Throat	2	2	1	0	1	0	0	0	0	0	2	0	1	0	0	0	0	0	0	4
Lungs	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Stomach	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	5
Bowels	1	4	1	2	0	1	2	0	0	0	1	0	0	0	1	0	0	0	0	0
Sacrum	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Unknown	55	50	30	20	50	2	5	0	1	1	10	12	3	12	7	0	2	0	0	1
Varioloid	14	3	6	2	1	2	2	1	1	1	8	1	0	0	0	0	0	0	0	0
Vomiting	2	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
Worms	4	2	4	2	0	3	1	2	0	0	0	0	0	0	0	0	0	0	0	0
Wounds	9	1	1	0	0	0	0	0	0	1	2	1	3	2	1	0	0	0	0	0
	2810	2263	1526	1258	1578	442	335	163	81	130	559	547	394	279	244	149	91	21	5	

Of the above, there were Males of twenty years and upwards, 1,285; under twenty years, 1,526; females of twenty years and upwards, 1,005; under twenty years, 1,258.

There were 356 returns received at the Health Office, of persons who died in the Alms-house of the City and Districts during the year; 519 people of colour are included in the total number of deaths.

Agreeably to returns made at the Health Office and collected from one hundred and fifty-one Practitioners of Midwifery, there were born in the City and Liberties, during the year 1834, 3,937 Male Children, 13,635 Female Children, making the total number of Births 7,572, leaving a difference between the Births and Deaths of 2,499.

Deaths in Each Month of the Year.

	Adults.	Children.	Total.
January	200	212	412
February	160	194	354
March	181	234	415
April	160	152	312
May	154	167	321
June	121	210	331
July	261	506	767
August	163	311	474
September	219	214	433
October	347	242	589
November	146	165	311
December	177	177	354
	2289	2784	5073

By Order of the Board of Health.

WM. A. MARTIN, Clerk.

Health Office, Philadelphia, January 1st, 1835.

Remarks on the preceeding Bill of Mortality. By G. EMERSON, M. D.—The deaths reported in 1834, exceed those of the preceding year 633, most of which excess is to be ascribed to a slight visitation of malignant cholera in September and October, together with an increased mortality from the ordinary forms of bowel complaints, small-pox, varioloid, and bronchitis.

The proportions from some of the most fatal sources of mortality, compared with those of the preceding years, stand thus:—

DISEASES.	1831.	1832.	1833.	1834.
Consumption - - - - -	673	681	650	636
Convulsions - - - - -	277	342	266	277
Small-pox - - - - -	14	37	156	195
Varioloid - - - - -	4	6	12	17
Measles - - - - -	23	118	1	7
Scarlet Fever - - - - -	200	307	61	88
Puerperal Fever - - - - -	14	8	32	
Croup - - - - -	127	110	95	81
Hooping-cough - - - - -	67	58	53	48
Bronchitis - - - - -	63	97	37	121
Apoplexy - - - - -	60	78	55	76
Inflammation of the Brain - - - - -	89	102	74	104
Fevers, (exclusive of Scarlet and Puerperal)	276	453	263	175
Cholera Maligna - - - - -		948		151
Bowel compl'ts, (exclusive of Cholera Maligna)	522	689	357	623
Inflammations of all kinds - - - - -	505	588	473	521
Dropsies - - - - -	367	364	302	353

Of the deaths from bowel affection, 151 were reported under the head of cholera, by which was meant cholera maligna; 53 cholera morbus, and 377 cholera infantum. Of dysentery there were 70 deaths, and of diarrhœa 123; making the total of bowel complaints this year no less than 774—more than double that of the preceding year, when it was but 337.

Of the deaths by cholera, (maligna,) the males exceeded the females 2 to 1. Of the 43 designated cholera morbus, 40 were males, and 13 females; of 377 by cholera infantum, 206 were males, and 171 females. They were each distributed under the following ages:—

DISEASES.	Under 1 year.	1 to 2	2 to 5	5 to 10	10 to 15	15 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 to 90
Cholera, (Maligna) -	0	1	4	3	2	2	28	31	37	26	14	2	1
Morbus -	1	0	1	2	1	2	13	11	12	4	2	2	2
Infantum -	248	101	23	5	0	0	0	0	0	0	0	0	0

The mortality under the head of cholera infantum exceeded that of the preceding year no less than 180. The cholera epidemic influence which existed during a portion of the past year, had therefore the effect of increasing the mortality from other forms of bowel complaints.

The period during which the deaths from cholera, (maligna,) were reported, lasted from the middle of September to the 1st of November, about six weeks. The week included between the 27th September and 4th of October, presented the greatest mortality, namely, forty-eight. The week preceding this, twenty-one were reported, and twenty-seven the week following.

Cæsarean Operation.—Our last number contains an account by Dr. J. G. NANCHEDE of a case of deformed pelvis in which the Cæsarean operation was successfully performed by Professor GRISON. The following details of the

operation, which are much more minute than those given by Dr. Nancrede, cannot fail to be interesting to our readers. We extract them from the recent edition of the *Institutes and Practice of Surgery* by the operator.

"A firm table was selected, and covered with a mattress and sheets, the patient placed upon it, on her back, and her pelvis and shoulders supported by pillows. In presence of Dr. Nancrede, Professor Dewees, Dr. Dove of Richmond, Professor Horner, Dr. Beattie, Dr. Wm. Cox, Dr. Theodore Dewees, and my son, Charles Bell Gibson, I made an incision, at the centre of the *linea alba*, commencing about an inch below the umbilicus, through the integuments, and extending nearly to the pubes. To save the patient pain, and to prevent this first, or perpendicular cut from penetrating too deeply, I requested Dr. Horner to fold up the skin with his fingers, and while thus held I passed the knife through it with its back towards the abdomen. The superficial fascia being exposed was divided, then the tendons of the abdominal muscles, next the peritoneum, and lastly the body of the uterus, all to the extent of six inches. The uterus, however, at this stage of the operation, was not cut entirely through, but a line or two in thickness, of the interior of its walls left, with the view of drawing off the waters before I opened the womb, penetrated the membranes and exposed the child. At my request Dr. Nancrede introduced a finger into the *os uteri* and endeavoured to rupture the membranes, but could not succeed. A similar attempt was made by Dr. Beattie, which also failed. Having resumed the knife, the remaining fibres of the uterus were divided, the membranes exposed, and cautiously opened by running Cooper's bistoury for stangulated hernia, upwards and downwards, to the extent of six inches, while Dr. Horner held closely together the sides of the wound, to prevent protrusion of the intestines and the escape of any portion of the waters into the bag of the peritoneum.

"There was a right lateral obliquity of the uterus, and the position of the child found to correspond with the third breech presentation of Baudelocque. Dr. Beattie then introduced his hand, and drew out the feet, while Dr. Nancrede supported the hips and back, and removed the body, and lastly, the head of the child, from the womb. It proved a girl of large size, and apparently healthy. For some seconds, however, it did not breathe, and, indeed, not until friction on the chest, blowing into the mouth, and the introduction of a few drops of brandy were resorted to. The cord being cut, the child was removed, and in a short time cried lustily. Whilst Dr. Horner still kept the sides of the wound together, Dr. Beattie extracted without difficulty the placenta and membranes, and at the same time, pushed a finger from the interior of the uterus through the *os tincæ*, to make a free communication with the vagina. During these manipulations, two portions of intestine, each the size of a pigeon's egg, protruded on the right side of the uterus, and near the upper corner of the wound. They were readily kept back, however, and did not again protrude; nor did any fluid, so far as could be observed, find its way into the peritoneal bag. No hæmorrhage took place from the removal of the placenta, nor was it necessary to secure a single vessel with the ligature. There was a visible contraction of the womb, after the removal of its contents, and the incision in it had sensibly shortened in the course of a few seconds.

"My attention was next drawn towards closure of the wound. With great care, and the utmost nicety, the edges of the peritoneum, muscles, and integuments were held together by assistants, while I passed, successively, three stout silk ligatures, in form of interrupted suture, through the integuments—avoiding the peritoneum and muscles—an inch and a half from each other, and supported the whole by adhesive straps, lint, a compress and roller around the abdomen. To give vent to any secretion of serum or pus, the lower angle of the wound was left open for the space of half an inch. The patient was then raised very carefully by several assistants, and laid in bed upon her back, and great pains taken to render her position as comfortable as possible, and to prevent the slightest movement. There was less difficulty in this respect than

could have been anticipated, arising partly from the little pain, comparatively, during the operation, the natural firmness and equanimity of the patient, and her faithful reliance upon Providence for a happy issue out of her affliction. Under the cheering influence of such feelings, she slept soundly for several hours; and did not change her position in the slightest degree.

"By Drs. Nancrede, Beattie and myself,* she was visited, for a week or ten days, three times a day; was kept entirely on barley water, during that time, under the influence of an occasional opiate at night, took now and then small doses of magnesia, or used enemata; had her diet gradually increased; on the twenty-fifth day after the operation was enabled to sit up,—the wound, with exception of a single spot, the size of a pea, being entirely cicatrized—and finally recovered, and now enjoys, together with her child, perfect health."

Case of Spontaneous Combustion. By JAMES OVERTON, M. D. of Tennessee. (Extracted from an essay read before the Medical Society of Tennessee at their Annual Meeting in May, 1835.)—The subject of the following case is a gentleman about thirty-five years of age, middle size, light hair, hazel eyes, sanguineo-lymphatic temperament, of habits entirely temperate in the use of stimulating drinks of any kind, fermented or alcoholic, with a constitution considerably enfeebled from long and zealous devotion to the sedentary and exhausting labour of scientific investigation. In early life he was very subject to derangements in the functions of the stomach and bowels; and at the present time suffers frequently from different modifications of these maladies, as costiveness, occasional diarrhœa, acidity of the stomach, heart-burn, &c. &c., with their usual train of sympathetic affections, involving parts of the organism at a distance from the primary seats of diseases into a participation of their suffering.

At the time of the occurrence of the accident, he was afflicted with acidity of the stomach, and by an unusual and irritating quantity of the matter of urea in the secretion of the kidneys; for the relief of which, he was in the habitual use of aperients, antacids, &c.

Mr. H., Professor of Mathematics in the University of Nashville, was engaged as usual in his recitation room, in attendance upon the morning exercises of his class till 11 o'clock in the forenoon. He then buttoned his surtout coat close around him, and walked briskly thus clothed to his residence, a distance of about three-fourths of a mile, taking exercise enough to produce a glow of warmth on the surface of the body, without inducing fatigue, but feeling at the same time his usual acidity of the stomach, for which he resolved to take some soda as a remedy within a short time. Having arrived at his lodging, he pulled off his over-coat and kindled a fire, by placing a few pieces of dry wood on three burning coals which he found in the fire place, of the magnitude of two inch cubes each; and immediately left the fire, and retired to a remote part of the room and made his observations on the weight and temperature of the atmosphere as indicated by the barometer and thermometer, which were suspended in that situation. He then took the dew-point by the thermometer. These operations, together with the registration of their results, occupied about thirty minutes. This having been accomplished, he went immediately into the open air, made observations on the hygrometer, and was beginning his observations upon the velocity and direction of the winds. He had been engaged in this latter process about ten minutes, his body all the while sheltered from the direct impression of the wind, when he felt a pain as if produced by the pulling of a hair, on the left leg, and which amounted in degree to a strong sensation. Upon applying his hand to the spot pained, the sensation suddenly increased, till it amounted in intensity to a feeling resembling the continued sting of a wasp or hornet. He then began to slap the part by

* "After the operation the patient was kindly visited, repeatedly, by Drs. Dewees, William Coxe, Horner, Spackman and others."

repeated strokes with the open hand, during which time the pain continued to increase in intensity, so that he was forced to cry out from the severity of his suffering. Directing his eyes at this moment to the suffering part, he distinctly saw a light flame of the extent at its base of a ten cent piece of coin, with a surface approaching to convexity, somewhat flattened at the top, and having a complexion which nearest resembles that of pure quicksilver. Of the accuracy in this latter feature in the appearance of the flame, Mr. H. is very confident, notwithstanding the unfavourable circumstances amidst which the observation must have been made. As soon as he perceived the flame, he applied over it both his hands open, united at their edges, and closely impacted upon and around the burning surface. These means were employed by Mr. H. for the purpose of extinguishing the flame by the exclusion of the contact of the atmosphere, which he knew was necessary to the continuance of every combustion. The result was in conformity with the design; for the flame immediately went out. As soon as the flame was extinguished, the pain began to abate in intensity, but still continued, and gave the sensation usually the effect of a slight application of heat or fire to the body, which induced him to seize his pantaloons with one of his hands and to pinch them up in a conical form over the injured part of the leg, thereby to remove them from any contact with the skin below. This operation was continued for a minute or two, with the design of extinguishing any combustion which might be present in the substance of his apparel, but which was not visible at the time. At the beginning of the accident, the sensation of injury was confined to a spot of small diameter, and in its progress the pain was still restricted to this spot, increasing in intensity and depth to a considerable extent, but without much, if any enlargement of the surface which it occupied at the beginning. A warmth was felt to a considerable distance around the spot primarily affected, but the sensation did not by any means amount in degree to the feeling of *pain*. This latter sensation was almost, if not entirely, confined to the narrow limits which bounded the seat of the first attack, and this sensation was no otherwise modified during the progress of the accident, than by its increasing intensity and deeper penetration into the muscles of the limb, which at its greatest degree seemed to sink an inch or more into the substance of the leg.

Believing the combustion to have been extinguished by the means just noticed, and the pain having greatly subsided, leaving only the feeling usually the effect of a slight burn, he untied and pulled up his pantaloons and drawers, for the purpose of ascertaining the condition of the part which had been the seat of his suffering. He found a surface on the outer and upper part of the left leg, reaching from the femoral end of the fibula in an oblique direction, towards the upper portion of the gastrocnemii muscles, about three-fourths of an inch in width, and three inches in length, denuded of the scarfskin, and this membrane gathered into a roll at the lower edge of the abraded surface. The injury resembled very exactly in appearance an abrasion of the skin of like extent and depth, often the effect of slight mechanical violence, except that the surface of it was extremely *dry*, and had a complexion more livid than that of wounds of a similar extent produced by the action of mechanical causes.

The condition of the pantaloons and drawers was next carefully inspected. The left leg of the drawers at a point exactly corresponding with the part of the leg which had suffered injury, and at a point accurately correspondent to the abraded surface, were burnt entirely through their substance. They were not in the slightest degree scorched beyond this limit, the combustion appearing to have stopt abruptly, without the least injury to any portion of the drawers, which had not been totally consumed by its action. The pantaloons were not burnt at all. But their inner surface opposite to and in contact with the burnt portion of the drawers, was slightly tinged by a thin frost-work of a dark yellow hue. The material of this colour, however, did not penetrate the texture of the pantaloons, which were made of broadcloth, but seemed to rest exclusively upon the extremities of the fibres of wool which

were the materials of its fabric. The colouring matter was entirely scraped off with the edge of a penknife without cutting the woolly fibres, after which there remained upon the garment no perceptible trace of the combustion, with which they had been in contact. The pantaloons may be said with entire propriety, to have suffered no injury of any kind from the accident. The drawers, which were composed of a mixture of silk and wool, were made tight and close at the ankle, and tied with tape over a pair of thick woollen socks, in such a manner as to prevent even the admission of air to the leg through their inferior opening. Considering the injury not to be of a serious character, Mr. H. bestowed upon its treatment no particular care or attention, but pursued his usual avocations within doors and in the open air, which was very cold, until the evening of the succeeding day. At this time the wound became inflamed and painful, and was dressed with a salve, into the composition of which the rosin of turpentine entered in considerable proportion. This treatment was continued for four or five days, during which time the wound presented the usual aspect of a burn from ordinary causes, except in its greater depth and more tardy progress towards cicatrization, which did not take place till after thirty-two days from the date of the infliction of the injury. The part of the ulcer which healed last was the point of the inception and intensity of the pain at the time of attack, and which point was evidently the seat of deeper injury than any other portion of the wounded surface. About the fifth day after the accident, a physician was requested to take charge of the treatment, and the remedies employed were such chiefly as are usual in the treatment of burns from other causes, except that twice a week the surface of the ulcer was sprinkled over with calomel, and a dressing of simple cerate applied above it. In the space between the wound and the groin there was a considerable soreness of the integuments to the touch, which continued during the greatest violence of the effects of the accident, and then gradually subsided. The cicatrix is at this time, March 24th, entire; but its surface is unusually scabrous, and has a much more livid aspect than that of similar scars left after the infliction of burns from common causes. The dermis seems to have been less perfectly regenerated than is usual from burns produced by ordinary means, and the circulation through the part is manifestly impeded, apparently in consequence of atony of its vessels, to an extent far beyond any thing of a similar nature to be observed after common burns. Since the wound has healed the health of the patient has been as perfect as usual, and while the wound continued open, his ordinary occupations were interrupted by a week's confinement only to his chamber. The accident occurred on the 5th of January of the present year, the day intensely cold and the thermometer standing at only eight degrees above zero, sky clear and calm, and the barometrical admeasurement of the atmosphere being 29.248 inches. Such is the history of the case of partial spontaneous combustion, which has recently occurred in this city. The facts have been stated as nearly as practicable in the words of the sufferer himself, and are consequently entitled to all the credit attributable to any statement of a similar character, which is or can be supplied by the annals of the profession.

Profluvium Vaginale.—A highly interesting case to which the above epithet has been given is recorded by Dr. ISAAC G. PORTER, of New-London in the *Medical Magazine* for June last.

"The subject of it is a married woman, twenty-seven years of age, of delicate constitution, the mother of four children, the youngest born October, 1833, after an easy natural labour. In April she was seized with catarrh, followed by pleuritic symptoms, and a severe cough.

"June 3d.—She first applied for advice, her friends fearing incipient consumption. Soon after a deep-seated pain in the right hypochondrium appeared, together with enlargement of the liver, and much tenderness on pressure. As this affection and also the cough subsided, much thickness and paucity of

urine manifested itself. This soon diminished under the use of digitalis squills, calomel and opium, but was followed by evident symptoms of abdominal dropsy. Various diuretics, and saline and hydrogogue cathartics were administered,—the former usually failing in their operation, while the latter either had no effect upon the distention, or with a partial diminution produced the most alarming prostration. Tonics were administered to prevent a reaccumulation, but with a return of the hepatic derangement. During the coëxistence of the two affections, tr. iodine, as a diuretic, was found extremely efficacious after having first resorted to small doses of calomel.

"26th. She informs me, that a few days since, there was a small discharge of bloody serum from the vagina, which came in a single gush. Recently she has had much distress just above the sacrum, and very severe bearing down pains. To-day, there was another discharge from the vagina,—inodorous, nearly colourless, and in quantity full a pint. From the severity of the shock, or the sudden removal of the 'stimulus of distention,' she nearly fainted. Nothing like a membrane followed. Lower portion of abdomen very sensible to pressure, but diminished in size; high febrile action; urine red, and coagulable by heat.

"July 12th.—After the last discharge there was constant, though moderate, flooding for nearly a fortnight. During lactation, if we except the three first months, she has always had the catamenia, and as often as once in two weeks, hence the flooding gave little alarm, and was for some time concealed. She has now the sensation of something in the pelvis, which induces the most urgent bearing down pains. Fearing a prolapsus of the uterus, an examination was made, but none was apparent. The os tinæ was found prominent, a little dilated, yet resisting like cartilage. The uterus suddenly distended from the os tinæ towards the rectum, and an obscure feeling of an irregular tumour was in the same position. The parts were so excessively tender as to resemble the irritable uterus.

"14th. There has been much difficulty of passing water of late, and to-day a large quantity was withdrawn by the catheter. I may here anticipate so far as to say, that this operation became necessary, once, twice, or thrice, each day, for the succeeding six weeks. Contrary to my direction, she would occasionally make efforts to relieve herself, but of that which passed, according to her own confessions, the half was blood.

"23d. Of late there have been evident signs of peritonitis. The tenderness of abdomen is so great, that the weight of the bed clothes can scarcely be endured. Pains in the back, and the bearing down sensation still continue. Examination detects considerable prolapsus of the uterus.

"Aug. 1st.—During a painful expulsive effort last night, another vaginal discharge took place, sufficient in quantity to wet eight folds of a sheet. The catamenia, which had continued two days, ceased last evening, and the discharge was not tinged. Patient is much relieved, and abdomen diminished in size. Sensibility of uterus greater than ever, as found by examination.

"10th. Since the last date the patient has passed water freely by catheter, a decoction of the root of an indigenous article, the *Asclepias syriaca*, proving effectual after many other diuretics had failed. After imprudent exertion and taking cold, a relapse ensued, and she was as much distended as at the full period of pregnancy. Last night there was another eruption of serum from the vagina, so profuse as to wet a folded sheet thoroughly in every part. The water had an offensive odour, or, as she expressed it, 'smelt feverish.' It was without colour, and came away in two distinct floods, rapidly succeeding each other, yet both attended by a propulsive effort. There has been of late much bearing down pains, and the same distress above the sacrum. In no instance has any thing like a membrane followed the discharge. Temporary, but extreme prostration always ensues. The abdomen is now much less distended and tender than for weeks. The distention which remains is confined to the right side of the abdomen, and a moderately firm tumour, apparently

larger than an orange, is perceptible amid the swelling in the right portion of the hypogastric region,—slightly moveable and not peculiarly sensible to pressure. Tr. iodine again resorted to—also one of the following pills four times a day:—Ext. conii. ʒiiss.; Carb. ferri, ʒij. M. f. pil. No. III.

"25th. The distention of the abdomen having almost entirely subsided, I resolved to ascertain whether the prolapsus, which had now become extreme, could not be remedied by a pessary. This has been often thought of, but rejected, owing to the great distention of the abdomen, and the extreme sensibility of the uterus. After reducing the prolapsus, a pessary was introduced, but could not be endured. Finding, however, that the uterus still maintained its place, the horizontal position was enjoined, the urine as previously being drawn off by the catheter.

"30th. Appetite has returned, and she is beginning to regain her health and strength. The pain in the back, which has been long diminishing, has ceased, and she passes water without difficulty.

"Feb. 11th, 1835.—Owing to exposure to cold, Mrs. S. has had a slight return of hepatic inflammation, followed by her former dropsical complaints. The distention was chiefly confined to the right portion of the hypogastric region, where there was much tenderness on pressure; bearing down pains severe, and following each other at regular intervals; pulse 120. This affection soon yielded to digitalis, calomel and opium,—the swelling in the right hypogastric region nearly disappearing with the hydropic symptoms. She informs me that since the middle of September, her health has been tolerably good,—that two months since she had another discharge from the vagina, and six weeks after another, each consisting of more than a pint, and each accompanied by intense bearing down pains, and preceded by much distention in the right portion of the pelvic region, which subsided with the discharge.

"Is the foregoing a case of solitary hydatid? For reasons of her own, our patient had thought herself pregnant for two or three months previous to the first eruption. Nothing, however, like a membrane has, in any instance, followed the discharge. Constipation and retention of urine existed, but compression produced by any other cause than hydatids, would have a similar effect.

"From the enlargement in the pelvic region, may we suppose that dropsy of the right ovary existed along with abdominal dropsy? The question may subject us to the charge of credulity, and we confess the 'quo modo,' by which the water could be discharged, does not appear. Munro, however, relates a case, (referred to in James' edition of Burns, Vol. I.) of a woman who died of ovarian dropsy, and who previously had been relieved by a discharge of the dropsical fluid, per vaginam.

"Or, is it an instance of the discharge of fluids, which had been 'retained in the uterus in some inexplicable way.' Such cases are alluded to by Denman, Dewees and others, and are not very rare, the writer having now a patient, who is occasionally subject to sudden bursting of serum from the vagina, but without any of the attendant symptoms of the case above detailed. It will be recollected, that in one instance, the catamenia ceased but a few hours previous to a discharge, thus showing that there could be no occlusion of the uterus, or that the fluid must have been contained in a cyst, that has never been discharged."

Cure of Hernia.—We invite the attention of our readers to the advertisement, at the close of this number, of a truss for the cure of hernia, by Mr. CHASE. We have examined his instruments, and have had opportunities of witnessing their application in several cases, and they seem to us to hold out greater promises of effecting a cure of hernia, than any other instrument hitherto devised.

The Philadelphia Medical Society has appointed a committee to investigate the subject of the radical cure of hernia, and they have now under observation

several cases which Mr. Chase is treating with his truss. We hope to be able to present their report in our number for May next. We understand that so far as their investigations have proceeded, the results are favourable to the instrument.

Remedial Powers of the Ceanothus Americanus. By Dr. D. H. HUBBARD.—I do not remember to have seen any reference made, (medicinally,) to the *Ceanothus Americanus* of Linnæus. Its sensible properties led me to use it in a case of aphthæ, and subsequently in other derangements of mucous surfaces, where I found it of some importance. Professor Bigelow describes the *ceanothus* as follows. "Leaves heart ovate, acuminate, triply nerved. Panicles axillary elongated. A small white flowering shrub, not unfrequent in dry sandy soils. Leaves two or three inches long and one broad, finely serrate, and tapering into a long point. From the axils of the upper leaves come out leafless branches bearing crowded bunches of minute white flowers. These are followed by dry three seeded, and somewhat triangular berries. The leaves were used among other substitutes for tea during the American revolution." I might add that the dried leaves and seeds have an odour, when bottled, not unlike imported tea. It has a slight bitter, and somewhat astringent taste. I first used it in case of an old lady of seventy, who had a severe thrush following typhus. The usual gargles were tried without much effect. Every second or third day a new coat of darker hue would cover the whole interior of the fauces. The mucous membrane after its discharge presented a dark florid appearance, with extreme sensibility. I had tried borax, alum, nitras argenti, vegetable astringents and tonics, as gold thread, crane's bill, hardhack, oak bark, sumach, &c. without much benefit. The *ceanothus* growing near, I directed a strong tea to be made of it, which acted like a charm; the thrush soon passed off, and without relapse. Since then I have used it largely in aphthæ of children, and find it highly useful in cases following dysentery maligna, as well as those of less debility and disease, even after other gargles have been ineffectually tried. During last March and April, scarlatina, attended in most cases with ulceration of the fauces, was very prevalent with us; I depended almost exclusively upon the *ceanothus*, with borax for a gargle, and in all but a single case of very malignant character this gargle was effectual. The form I used, and which I found best adapted for the cases as presented, was prepared by making a strong tea of the *ceanothus* and flowers of *Anthemis cotula*, and to a gill add a piece of borax the size of a large pea. I think the borax and Mayweed rendered it in many cases more effectual. I have also used it with benefit in form of a tea in dysentery of children, and found it fully equal in many cases to the *Speica tormentosa*. The tea I used was prepared from the leaves and seeds.—*Boston Med. and Surg. Journ. September 30th, 1835.*

University of Pennsylvania.—A Professorship of the Institutes of Medicine has been added to the Medical Faculty of this University, and the chair filled by the appointment of Dr. Samuel Jackson, formerly lecturer on that subject, as assistant to Professor Chapman, and whose services in that office have contributed much to the lustre of the school. Dr. Jackson's well-known erudition, his extensive reputation as a physician, and his popularity as a lecturer, render his accession in a permanent situation a subject of congratulation to the institution.

The Professorship of *Materia Medica*, vacated last spring by the removal of Dr. J. R. Coxe, has been conferred on Dr. George B. Wood. Professor Wood is known as the author, in conjunction with Dr. Bache, of the best Dispensatory in our language; he is a practitioner, a scholar of indefatigable industry and sound judgment, and will undoubtedly give a judicious, useful, and satisfactory course.

Biographical Notice.—THOMAS SEMMES, M. D. was born in Prince George's County, Maryland, August 13th, 1779. He prosecuted his professional studies at Alexandria, Virginia, under the direction of the late Dr. Elisha Cullen Dick, and graduated at the University of Pennsylvania in the year 1801. His inaugural dissertation on the general effects of lead, and on the nature and properties of the *Saccharum saturni*, presented many striking and original observations concerning the character of that substance, and was distinguished by a depth of reflection and solidity of judgment which gave evidence of future eminence in his profession.

After having visited France, Spain, and several other countries in Europe, Dr. S. returned to Alexandria, where he continued to reside, and to pursue the practice of medicine until the period of his death.

An indisposition to appear before the public as an author, great diffidence, and a love of retirement, were the causes why talent and learning of no ordinary degree remained in comparative obscurity. He preferred the secluded path of duty, benefiting his fellow men by the personal application of his great skill and knowledge, to stations which he could easily have attained, but in which, though his abilities might have appeared more conspicuous, his usefulness might have been more questioned.

The theoretical views of Dr. S. were clear, profound, and often bold and original. His practical success was almost unprecedented, and the public confidence was never, at any moment or under any circumstances, withheld from him. That confidence was amply repaid by his energy, zeal, and untiring assiduity in his practice generally; but more especially during the epidemics which raged in Alexandria in 1803 and 1821, and more recently, during the prevalence of the Asiatic cholera, so called, in the summer of 1832.

The acquirements of Dr. S. were not confined to medical knowledge. He was an excellent scholar, and well read in general literature. His personal virtues and accomplishments are recorded in the hearts of all who knew him. Well may the remark of Horace, concerning his friend, be applied to him—he was “*homo ad unguem factus*.”

The following epitaph has been inscribed upon his tomb:—

MEMORIAE ·

THOMAE · SEMMES · M · D ·

VIRI · ANTIQVAE · VIRTVTIS · ET · MANSVETISSIMI ·
INGENI ·

MEDICINAE · SCIENTIA ·

QUOQVE · ET · OMNI · DOCTRINA ·

CLARI ·

DE · PATRIA · ET · DE · CIVIBVS · ALEXANDRINIS ·
OPTIME · MERITI

PIVS · VIXIT · ANN · LIV · M · XI · D · XVIII ·

IVSTITIA · COMITATE · BENIFICENTIA ·

CARVS · OMNIBVS

VITAM · BENE · ET · CVM · HONORE · ACTAM ·

MORS · CHRISTIANA · FINIVIT

NATVS · A · D · MDCCLXXVIII · ET · DIE · AVG · XIII

OBIIT · DIE · IVLII · XXXI · A · D · MDCCCXXXIII

QUARTERLY

MEDICAL ADVERTISER.

IN consequence of the extended circulation of the *AMERICAN JOURNAL OF THE MEDICAL SCIENCES*, the Proprietors intend, in compliance with the wishes of many of their Friends, to affix to each No. a Sheet of Advertisements. All Booksellers, Medical Gentlemen, and others desirous of taking advantage of this mode of announcement, will please address their Advertisements to *CAREY, LEA & BLANCHARD*, Philadelphia, by the 10th day of the month preceding that of the publication of the Journal, viz. on 10th July, 10th October, 10th January, and 10th April.

For one page	- - - - -	Six dollars.
Half a page or less	- - - - -	Three dollars.

Philadelphia, January 20, 1830.

UNIVERSITY OF PENNSYLVANIA.

MEDICAL DEPARTMENT.

The Lectures commence annually on the first Monday of November, and continue until the ensuing March.

<i>Theory and Practice of Medicine.</i>	By NATHANIEL CHAPMAN, M. D.
<i>Institutes of Medicine.</i>	By SAMUEL JACKSON, M. D.
<i>Special and General Anatomy.</i>	By WILLIAM E. HORNER, M. D.
<i>Materia Medica and Pharmacy.</i>	By GEORGE B. WOOD, M. D.
<i>Chemistry.</i>	By ROBERT HARE, M. D.
<i>Surgery.</i>	By WILLIAM GIBSON, M. D.
<i>Obstetrics and Diseases of Women and Children.</i>	} By WILLIAM P. DEWEES, M. D.

Clinical Medicine and Surgery taught by the Prescribing Medical Officers at the Blockley Hospital, under the Guardians of the Poor, and at the Pennsylvania Hospital.

W. E. HORNER, M. D.
Dean of the Medical Faculty.

ADVERTISEMENT

TO THE

MEDICAL PROFESSION.

Through the medium of this Journal, we announce to the Medical Profession that we have in our possession an improved set of instruments for the cure of Hernia.

These instruments consist of—

An Umbilical and Ventral Truss.

An Inguinal and Scrotal Truss.

A Femoral Truss.

And a Double Truss for Double Ruptures.

They are constructed upon surgical and anatomical principles, and each truss is adapted to that species of rupture which it is intended to cure.

The manner of applying pressure to the ruptured parts, and of retaining the bowel so as to produce a permanent cure, is upon a principle not heretofore practised.

From the success that has attended these instruments in our hands, from the principles which they involve in their action, and from a belief that when judiciously used, they will be found of the greatest utility to mankind, we invite the profession to examine their construction, to investigate the principles of their action, and to witness their effects.

To the following medical gentlemen I am permitted to refer. Several of whom have witnessed the use of these instruments in my hands, and before whom I have brought patients previous to their application and during the process of cure.

The advertiser has permission to refer to Professors Gibson, Horner, Jackson, Parker, Childs, M'Clelland, Pattison, and Drs. R. Coates, Ashmead, J. Parrish, T. Harris, B. Coates, W. Rush, Bond and Hays.

These instruments must be used by surgeons versed in the anatomy of hernia, and in the principles of cure.

They will be placed in the hands of surgeons, and will ever be retained in the profession.

Responsible medical gentlemen throughout the United States are invited to take an interest in the use of these instruments, and to those thus desirous, all necessary information in relation to the manner of use, and their mode of action will be given.

Orders for instruments must be made through a surgeon, giving a state of the case in question, the species of hernia, the size of the patient, and the side ruptured.

Directions for use will accompany each instrument.

I am now prepared to treat patients of both sexes labouring under every variety of hernia with these instruments, and can, with great confidence, ensure a permanent cure of this disease.

Patients will receive every attention when placed under our care.

Any information in relation to the above instruments, and manner of treating hernia will be freely given to the profession.

Address, (free of expense,)

HEBER CHASE,

No. 111, South Ninth Street, Philadelphia.

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The course of lectures will commence on the first Monday of December next, and terminate the last week in March.

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J. MONROE MACKIE, M. D. *Professor of Materia Medica, Therapeutics and Medical Jurisprudence.*

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C. A. LUZENBERG, M. D. *Professor of Anatomy, (ad interim.)*

Requisites and Fees of Graduation the same as in the University of Pennsylvania.

NEW MEDICAL WORKS.

KEY & BIDDLE

HAVE IN PRESS THE FOLLOWING NEW MEDICAL WORKS:—

OBSERVATIONS on STRANGULATED HERNIA, and some of the DISEASES of the URINARY ORGANS. By JOSEPH PARRISH, M. D.

PRINCIPLES of PATHOLOGY and PRACTICE of PHYSIC. By JOHN MACKINTOSH, M. D. Lecturer on the Practice in Edinburgh. From the last London Edition, with notes and additions, by SAMUEL GEORGE MORTON, M. D. Physician to the Philadelphia Alms-house Hospital, Lecturer on Pathological Anatomy, &c. &c.

The American Edition will embrace besides much other new matter, an exposition of the pathological doctrines of fever as taught by Broussais, Chomel, and others; a chapter on the Epidemic Cholera; an appendix of upwards of one hundred prescriptions adapted to the practice of the United States, &c. &c. &c.

On the DIAGNOSIS of DISEASES of the CHEST, by the comparison of their physical and functional signs, with a tabular view of the Symptoms and directions for acquiring a knowledge of the sounds derived from Physical exploration. By W. W. GERHARD, M. D. Lecturer on the Institutes of Medicine in the Philadelphia Medical Association, Fellow of the College of Physicians of Philadelphia, Member of the Societe Medicale D'Observation, and of the Anatomique of Paris.

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CAREY, LEA & BLANCHARD,
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A TREATISE ON PULMONARY CONSUMPTION,

Comprehending an Inquiry into the Cause, Nature, Prevention, and Treatment of TUBERCULOUS and SCROFULOUS DISEASES in general. By JAMES CLARK, M. D., F. R. S. &c. In 1 vol. 8vo.

"Dr. Clark's Treatise on Consumption is the best that has yet been published in this country, or on the continent. It shows an intimate knowledge of the approved methods of diagnosis, and of the morbid anatomy so successfully investigated by the continental pathologists, and by Professor Carswell; while it displays an acquaintance with the resources of the system, and the power of therapeutic agents, only possessed in this country and in Germany."—*Lancet*, August, 1835.

"Taking the Treatise as a whole, we are acquainted with few which can be compared with it, either for the interest or importance of the subject, or for the clear, philosophical, and truly practical manner in which its doctrines are developed; and we cannot recall any monograph from the diligent study of which, not only the student, but the practitioner, may derive more satisfaction and substantial professional advantage."—*Edin. Med. and Surg. Journ.* April, 1835.

"We recommend strongly the study of the author's hygienic remarks to our professional brethren; indeed, we think that every parent ought to be acquainted with the excellent rules laid down on nursing, dress, bathing, air, exercise, and education. We have seldom seen a medical work more deserving of general circulation, or one that we would more zealously recommend to the younger members of the profession."—*Med. Quart. Rev.* April, 1835.

"In addition to its merits as a professional work, it abounds in information intelligible to every rational creature, and particularly important for parents, the guardians of youth, and the young themselves to be made acquainted with. But what we regard as his distinguished excellence, is the truth of observation, logical and comprehensive clearness, and entire success with which he traces the history of the disease."—*The Scotsman, Edinburgh Political and Literary Journal*.

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ANIMAL and VEGETABLE PHYSIOLOGY, considered with reference to Natural Theology. By PETER MARK ROGET, M. D. Illustrated with nearly 500 wood-cuts. In 2 vols. 8vo. Being a part of the Bridgewater Treatises.

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TO READERS AND CORRESPONDENTS.

Communications have been received from Drs. Brigham, A. Smith, Weems, and Ramsay.

Dr. Pennock's paper has been unavoidably postponed, in consequence of the impossibility of having the plates coloured in due time.

Our report of the cases treated during the past quarter at Wills' Hospital, has been excluded, to make room for the communications of our correspondents.

The following works have been received:—Elements of Medical Jurisprudence. By THEODORIC ROMEYN BECK, M. D., Professor of the Institutes of Medicine and Lecturer on Medical Jurisprudence in the College of Physicians of the Western District of the State of New York, and JOHN B. BECK, M. D., Professor of Materia Medica and Medical Jurisprudence in the College of Physicians and Surgeons, New York, &c. 5th edition. Albany, 1835, 2 vols. 8vo. (From authors.)

Principles of Pathology and Practice of Physic. By JOHN MACKINTOSH, M. D. Lecturer on the Practice of Physic in Edinburgh, &c. &c. From the last London edition, with notes and additions. By SAMUEL GEORGE MORTON, M. D., late Physician of the Philadelphia Alms-house Hospital, Lecturer on Pathological Anatomy, &c. &c. 2 vols. 8vo. Philadelphia, Key & Biddle, 1836. (From the Editor.)

Animal and Vegetable Physiology, considered with reference to Natural Theology. By PETER MARK ROGET, M. D., Secretary to the Royal Society, Fullerian Professor of Physics in the Royal Institution of Great Britain, &c. &c. Philadelphia, 1835. Carey, Lea & Blanchard. 2 vols. 8vo, with 463 engravings. (From the publishers.)

A Further Inquiry concerning Constitutional Irritation and the Pathology of the Nervous System. By BENJAMIN TRAVERS, F. R. S., Senior Surgeon of the St. Thomas's Hospital, &c. &c. &c. London, Longman & Co. 1835. (From the author.)

A Treatise on Pulmonary Consumption, comprehending an Inquiry into the Causes, Nature, Prevention, and Treatment of Tuberculous and Scrofulous Diseases in general. By JAMES CLARK, M. D., F. R. S., Consulting Physician to their Majesties the King and Queen of the Belgians, &c. &c. Philadelphia. Carey, Lea & Blanchard, 1835. (From the publishers.)

Die Cholera in Wien. Von A. D. BASTLER, M. D. &c. Wien, 1832. (From Dr. Von dem Busch.)

Die Cholera Epidemie in Danzig. Von E. O. DAUN. Danzig, 1831. (From Dr. Von dem Busch.)

Observations on the Influence of Religion on Health and the Physical Welfare of Mankind. By AMARIAH BRIGHAM, M. D. Boston, 1835. (From the author.)

A Critical and Experimental Essay on the Circulation of the Blood; especially as observed in the minute and capillary vessels of the Batracia and of Fishes. By MARSHALL HALL, M. D., F. R. S., &c. &c. Philadelphia: E. L. Carey & A. Hart, 1835. (From the publishers.)

Researches Principally relative to the Morbid and Curative Effects of the Loss of Blood. By MARSHALL HALL, M. D., F. R. S. &c. 2nd American edition. Philadelphia: E. L. Carey & A. Hart, 1835. (From the publishers.)

Oration on the Defects of the Present System of Medical Instruction in the United States. Read before the Philadelphia Medical Society, 21st November, 1835. By REYNELL COATES, M. D., Honorary Member of the Society, &c. &c. Philadelphia, 1835. (From the author.)

Researches in Medicine and Medical Jurisprudence. By JOHN B. BECK, M. D. Professor of Materia Medica and Medical Jurisprudence in the College of Physicians and Surgeons of New York, &c. &c. 2nd edition. New York, 1835. (From the author.)

Practical Observations on Strangulated Hernia and some of the Diseases of the Urinary Organs. By JOSEPH PARRISH, M. D. Philadelphia: Key & Biddle, 1836. (From Isaac Parrish, M. D.)

Researches on the Effects of Blood-letting in some inflammatory diseases, and on the Influence of Tartarized Antimony and Vesication in Pneumonitis. By CH. A. LOUIS, Physician to the Hospital la Pitié, &c. &c. Translated by C. G. PUTNAM, M. D., with preface and appendix, by JAMES JACKSON, M. D., Physician of the Massachusetts General Hospital. Boston: Hilliard, Gray & Co. 1836. (From the translator.)

Catalogue of the Trustees, Faculty, and Students of the Berkshire Medical Institution. (From Prof. Bartlett.)

Report of the Directors of the Lunatic Asylum of Ohio, to the thirty-fourth General Assembly. Columbus, 1835.

An Address introductory to a Course of Lectures, delivered in Clinton Hall, New York, Nov. 15, 1835. By GUNNING S. BEDFORD, M. D., Lecturer on Obstetric Medicine and the diseases of Women and Children, in the city of New York. New York, 1836. (From the author.)

Journal Hebdomadaire des Progrès des Sciences et Institutions Médicales, July, August and September. (In exchange.)

Revue Médicale, July and August, 1835. (In exchange.)

Gazette Médicale de Paris, July, August, and September, 1835. (In exchange.)

La Lancette Française, Gazette des Hôpitaux, July, August, and September, 1835. (In exchange.)

Journal des Connaissances Médico Chirurgicales, July, August, and September, 1835. (In exchange.)

Journal de Pharmacie et des Sciences, accessories, August and September, 1835. (In exchange.)

London Medical Gazette, September, October, November, December, 1835. (In exchange.)

The India Journal of Medical Science. Edited by Messrs. J. Grant and J. T. Pearson, Calcutta, January 7, 1834, to June, 1835, inclusive, 18 Nos. (In exchange.)

Revista Medica Fluminense, Publicada Pela Sociedade de Medicina do Rio de Janeiro. April, May, June, July and August, 1835. (In exchange.)

The Boston Medical and Surgical Journal. (In exchange.)

The United States Medical and Surgical Journal, November and December, 1835. (In exchange.)

Jamaica Physical Journal for September and October, 1835. (In exchange.)

Authors of new medical books, desirous of having them reviewed or noticed in this Journal at the earliest opportunity, are invited to transmit to the *Editor* a copy as soon after publication as convenient, when they will receive prompt attention. Under ordinary circumstances, very considerable delay is caused by the circuitous routes through which they are received.

Papers intended for publication, should be sent, *free of expense*, as early after the appearance of the Journal as possible, in order to be in time for the ensuing number. Such communications should be addressed to "CAREY, LEA & BLANCHARD, Philadelphia, for the *Editor of the American Journal of the Medical Sciences*."

All letters on the *business* of the Journal to be Addressed exclusively to the publishers.

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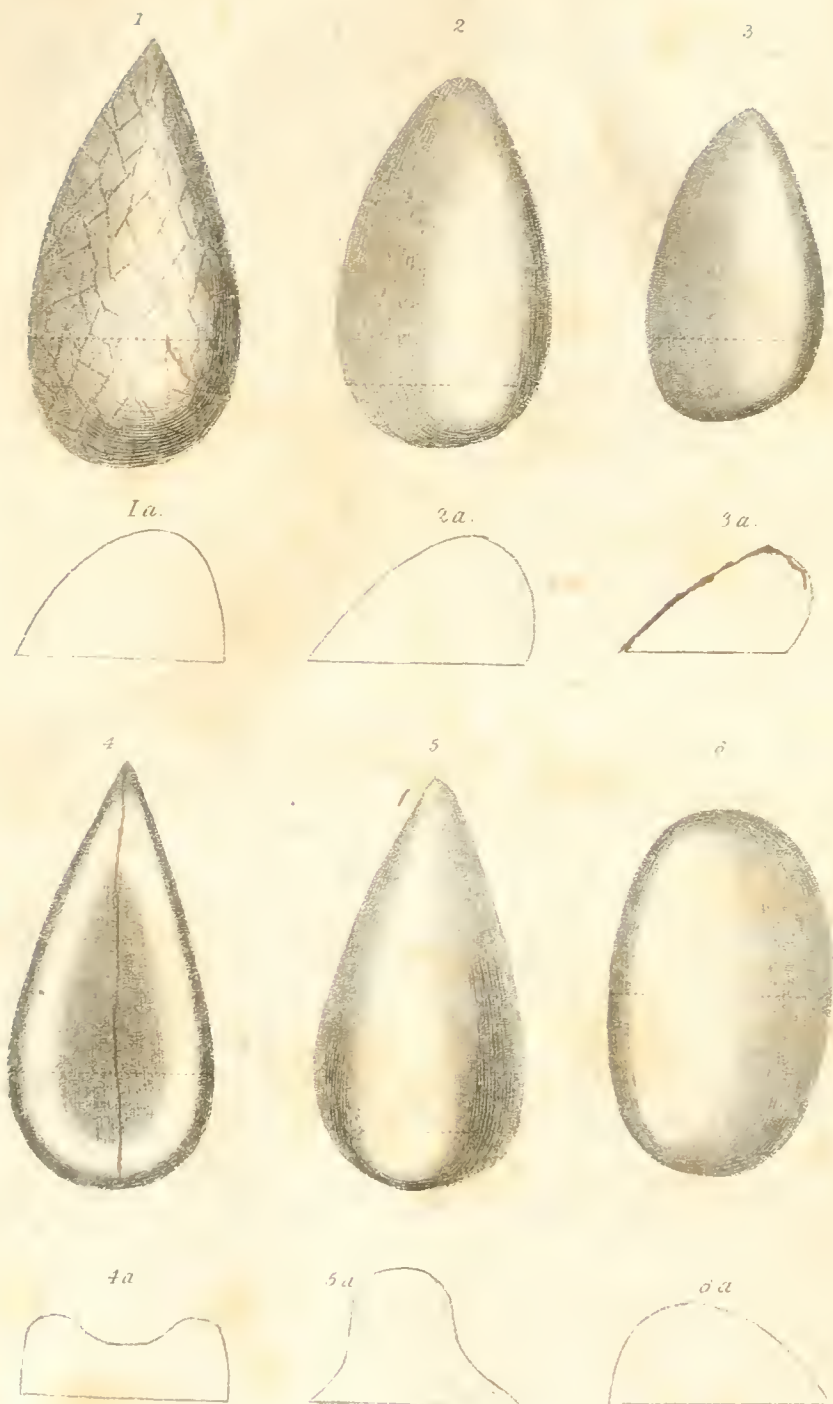
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1. Stagner's Inguinal Block	1a. Transverse section of do.
2. Hood's do. do.	2a. do. do. "
3. Hood's Block with Parabolic projection for Vento-inguinal Hernia	3a. do. do. "
4. Hood's Plano-concave Vento-inguinal Block	4a. do. do. "
5. Hood's Femoral Block	5a. do. do. "
6. Chase's Inguinal and Femoral	6a. do. do. "

The Sectional Views are taken through the highest points of deviation which are indicated by the dotted lines.

THE
AMERICAN JOURNAL
OF THE
MEDICAL SCIENCES.

ART. I. *Clinical Reports of Cases of Pneumothorax and Gangrene of the Lungs, treated at the Pennsylvania and Blockley Hospitals.*
By W. W. GERHARD, M. D., Physician to the Blockley Hospital.

Pneumothorax is a collection of gas in the cavity of the pleura, and is almost always caused by perforation of this membrane from the softening of a tubercular mass immediately beneath it. It is not a rare accident during the course of pulmonary phthisis, and sometimes occurs in patients at a very early period of this disease. The following cases of Pneumothorax are five in number; four of them were treated and observed at the Pennsylvania Hospital, and one at the Blockley Hospital attached to the Philadelphia Alms-house. The cases observed at the Pennsylvania Hospital proved fatal; three of these patients died of the immediate effects of the perforation, one recovered from it entirely, and died of a secondary pleurisy, which supervened about a year after his discharge from the Hospital. The last patient is still under treatment. The cases afford illustrations of most varieties of the lesion in question.

CASE I. *Phthisis of eighteen months' standing—Tuberculous cavities in the left Lung—Perforation occurring at the upper portion of the right Pleura—Extreme Dyspnœa—Death an hour after the perforation—Pleura distended with inodorous Gas, and slightly reddened around the perforation.*—A seaman, aged twenty-six years, entered January 14th, 1835. He was born and lived at New Orleans, until

he was ten years old, but during the last sixteen years he has sailed to various countries, and was ill but twice during that period; once with variola, seven years since, and afterwards with intermittent, contracted at Savannah.

In January, 1834, he began to cough after exposure during a rough voyage round Cape Horn; the cough was preceded by coryza, and has continued since that time. There was pain in both sides of the chest, but especially the right, near the base of the lungs; on the left side it was confined to the loins, where it followed each fit of coughing.

In the month of March or April, he was at Callao; and while lying in bed was awakened by feeling a liquid rising in his throat. He rose and in a few minutes spit up nearly a pint of florid blood; the hæmoptysis continued the next day, when he was obliged to enter an Hospital. In eleven days he went to work again, but still coughed a little. During his homeward passage the hæmoptysis returned twice, lasting nearly a week each time, but not exceeding half a pint of blood. He was able to do duty during the voyage, but was extremely short-breathed when obliged to go aloft. He suffered no pains in his breast—was not subject to chills or sweating; appetite good; no diarrhœa; emaciation constantly increasing.

For five or six weeks before his entrance, there was a slight discharge of blood from the lungs every day, with increased dyspnœa. Night sweats began soon after landing, and have since continued. Frequent vomiting and anorexia from the same date. The cervical glands began to enlarge at sea, and have since steadily increased in size. There was soreness of the larynx soon after the first hæmoptysis, and alteration of the voice from the same date.

Present state, January 16th. Skin dark; hair and eyes black; slight emaciation; enlargement of extremities of the fingers; no œdema of legs; strength sufficient to walk easily; intelligence good; no cephalalgia; senses natural; a little sweating at night; slight pain at the base of the right axilla, none elsewhere; some soreness at the larynx and upper part of the trachea; voice hoarse; cough frequent, dry and harsh; expectoration whitish; mucous, with streaks of florid blood, and intermixed with irregular masses.

The thorax is contracted on the left side, where the depressions behind the clavicles are very deep. Percussion on the right side sonorous throughout, even more than usual towards the base, but at the posterior part of this side the sound is rather obscure. The resonance of the left side is obscure from the clavicle to the base of the lung, and nearly as dull at the upper part of its dorsal sur-

face. The respiration is soft, pure and expansive on the whole anterior part of the right side; it is equally expansive posteriorly, but the inspiration and expiration are rude near the summit of the lung, where there is an increased resonance of the voice. On the left side the inspiration is every where extremely feeble; there is no distinct expiration or bronchial sound—a little sub-crepitant rhonchus is heard, chiefly near the base of the lung. No distinct resonance of the voice upon the left side. Pulsations of the heart strong, especially throughout the left side.

Tongue rosy and moist; pharynx natural; deglutition easy; appetite moderate; no thirst; abdomen free from pain; constipation; pulse 96, regular and full; respiration 24, high.

Decoction of Iceland Moss, $\bar{\zeta}$ xvj. daily. Pectoral mixture.

On the 18th he had a slight chill and a return of hæmoptysis, but not exceeding an ounce of blood; for the next two weeks there were some streaks of it mixed with the mucus of the expectoration.

The expectoration gradually became characteristic of phthisis, and by the middle of March consisted of rounded yellowish masses, suspended in a thin transparent liquid. The cough became more frequent, but the respiration did not increase in frequency; the pulse in the morning never exceeded 80 in the minute. The night sweats were very regular and profuse. Emaciation gradually increasing. Leeches were twice applied to the enlarged cervical glands; blisters and frictions, with iodine ointment, were afterwards used without the least apparent advantage. The sub-crepitous rhonchus heard at the left side, was gradually replaced by mucous rhonchus, and finally by gurgling beneath the clavicle. The soreness at the larynx and the hoarseness were neither increased nor diminished.

On the 22d of March, the anterior part of the left side yielded a perfectly flat sound on percussion, and there was a strong crackling during the inspiration; when he coughed this was replaced by gurgling. The mucous rhonchus was loud at the upper and posterior part of the same side. On the right side the respiration was generally feeble, and a little rude near the top of the lung.

The emaciation gradually increased during the months of April, May and June, and the gurgling at the left side was louder and more extensive. The appetite failed during the last month. Several successive attacks of diarrhœa were relieved by opiates and flaxseed enemata. The treatment in other respects consisted in the application of blisters or cups to the chest when the pain in the side returned, and in the administration of opiate mixtures, &c.

On the 5th of July no new symptoms were observed at the morn-

he was ten years old, but during the last sixteen years he has sailed to various countries, and was ill but twice during that period; once with variola, seven years since, and afterwards with intermittent, contracted at Savannah.

In January, 1834, he began to cough after exposure during a rough voyage round Cape Horn; the cough was preceded by coryza, and has continued since that time. There was pain in both sides of the chest, but especially the right, near the base of the lungs; on the left side it was confined to the loins, where it followed each fit of coughing.

In the month of March or April, he was at Callao; and while lying in bed was awakened by feeling a liquid rising in his throat. He rose and in a few minutes spit up nearly a pint of florid blood; the hæmoptysis continued the next day, when he was obliged to enter an Hospital. In eleven days he went to work again, but still coughed a little. During his homeward passage the hæmoptysis returned twice, lasting nearly a week each time, but not exceeding half a pint of blood. He was able to do duty during the voyage, but was extremely short-breathed when obliged to go aloft. He suffered no pains in his breast—was not subject to chills or sweating; appetite good; no diarrhœa; emaciation constantly increasing.

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Present state, January 16th. Skin dark; hair and eyes black; slight emaciation; enlargement of extremities of the fingers; no œdema of legs; strength sufficient to walk easily; intelligence good; no cephalalgia; senses natural; a little sweating at night; slight pain at the base of the right axilla, none elsewhere; some soreness at the larynx and upper part of the trachea; voice hoarse; cough frequent, dry and harsh; expectoration whitish; mucous, with streaks of florid blood, and intermixed with irregular masses.

The thorax is contracted on the left side, where the depressions behind the clavicles are very deep. Percussion on the right side sonorous throughout, even more than usual towards the base, but at the posterior part of this side the sound is rather obscure. The resonance of the left side is obscure from the clavicle to the base of the lung, and nearly as dull at the upper part of its dorsal sur-

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Tongue rosy and moist; pharynx natural; deglutition easy; appetite moderate; no thirst; abdomen free from pain; constipation; pulse 96, regular and full; respiration 24, high.

Decoction of Iceland Moss, $\frac{\text{z}}{5}$ xvj. daily. Pectoral mixture.

On the 18th he had a slight chill and a return of hæmoptysis, but not exceeding an ounce of blood; for the next two weeks there were some streaks of it mixed with the mucus of the expectoration.

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The emaciation gradually increased during the months of April, May and June, and the gurgling at the left side was louder and more extensive. The appetite failed during the last month. Several successive attacks of diarrhœa were relieved by opiates and flaxseed enemata. The treatment in other respects consisted in the application of blisters or cups to the chest when the pain in the side returned, and in the administration of opiate mixtures, &c.

On the 5th of July no new symptoms were observed at the morn-

pression of the right lung, which was still capable of performing the function of respiration; the left had already become nearly useless from the extensive deposit of tubercles.

An anatomical point of much interest, is the fact often alluded to by observers, that tuberculous patients are always exposed to great danger when no adhesions have occurred between the two surfaces of the pleura. In such cases there is always great danger of perforation of the serous coat, and, if there be much disease of the opposite lung, sudden death may ensue.

The operation of paracentesis was thought of, but from the circumstances of the case it was not authorized. It is probable that this operation would have prolonged the life of the patient for a few hours, until the inflammation of the pleura had become extensive; his sufferings must, in that case, have been so great as to make it extremely doubtful whether the operation is justifiable in cases in which the most diseased lung is not the seat of pneumothorax.

CASE II. Phthisis of eight months' duration—Tubercles confined to the summit of the lungs—Sudden pain occurring while in bed in the right side of the chest—Distension of that side; loud resonance on percussion; amphoric respiration and metallic tinkling; decubitus on the side not affected—Death eleven days after perforation.

A patient, aged twenty-seven years, formerly employed as a nurse in the Pennsylvania Hospital, and for the last two years following the business of a leecher and cupper, was admitted on the 1st March, 1834. He was never very robust, but has not been confined to his bed for a single day from disease for the last six or seven years. Habits not intemperate. His mother is still living and in good health; his father died suddenly of apoplexy. His grand parents died at an advanced age; of a family consisting of three sisters and two brothers one only died in early infancy.

He began to cough about the end of the autumn of 1833, and took some domestic remedies, without effect. The cough continued during the whole winter, but was rather better a little while before his entrance into the hospital. There was expectoration of a thin transparent liquid, two months after the cough began; it gradually became yellower and more consistent, and in March and April it was a thin watery liquid, containing rounded irregular masses. There was never hæmoptysis; once or twice only he observed a few streaks of blood. He had no pains in the chest until the end of the winter, when he felt a deep-seated, uneasy sensation at the centre of the chest, which was relieved by a few cups which he applied to the part. There was evident emaciation before the end of the winter, but he

had begun to lose flesh before the cough commenced; his strength sensibly diminished about the same time. There was a little œdema of the legs, a short time before he was admitted. The appetite was good, except when the cough was violent, when a paroxysm was sometimes followed by vomiting. Stools perfectly regular. During the winter he suffered much from chilliness, and every day at eleven or twelve o'clock, a paroxysm began which was followed by sweating at night. Voice not affected. From the 1st of March to the middle of April, the treatment was a pectoral mixture of opium and tartarized antimony, the infusion of the wild cherry tree bark, and then a course of blue pill until his gums became a little sore. The decoction of the senega snake root was also given for a day or two, but was soon suspended. After the 1st of April, he began the use of the tincture of digitalis, in doses of fifteen drops, thrice daily, increasing gradually to twenty-five.

State. April 22nd, 1834. Hair black, skin dark; emaciation far advanced; extremities of fingers thickened; no œdema; strength so feeble that he can walk for a few minutes only at a time; intelligence and memory very good. No cephalalgia or vertigo; senses natural; sleep in general good, but sometimes disturbed by the cough, which comes on in paroxysms at night. Sputa consist of irregular masses, floating in a thin liquid, with a few streaks of blood. Pulse, in the morning, 86, regular, but at eleven there is a paroxysm of fever, followed by abundant perspiration; no chills; tongue rather reddish, clean, but dry; appetite good in the morning, bad afterwards; digestion easy, when free from fever, but attended with much oppression and nausea after it comes on; it is always slow. Stools daily.

Thorax. Intercostal spaces and the hollows near the clavicles more depressed on the right than the left side. Percussion on the anterior part of the chest was at least as sonorous as usual on the left side; slight obscurity at the upper part of the right side.

At the posterior part of the chest the resonance was not materially diminished except at the summit of the right lung. The vesicular respiration was heard throughout the whole extent of the left lung, and was soft and expansive, except just at the summit, where there was a slight expiration. On the right side the inspiration was feeble throughout the upper two thirds, and there was a decided expiratory sound, especially near the root of the lung; towards its lower part the respiration was pure and soft. The resonance of the voice was much increased at the upper posterior part of the right lung. Ordered tinct. digitalis 25 drops, thrice, daily; gum potion; animal diet.

The digitalis was suspended a few days after the last date, from

the sudden loss of strength and irregularity of the pulse, which fell to fifty pulsations in the minute, without producing any diminution in the symptoms. No other changes of importance were observed, either in the respiration or the other functions. In addition to the pectoral mixture, he took, during a few days, a mixture containing gum ammoniac and nitric acid.

On the morning of May 30th, he was awakened by severe pain in the right side of the chest; when he turned towards that side he felt something fall from the inside of the chest towards the ribs, with so much increase of pain as to impede his breathing. The respiration was extremely feeble throughout the whole extent of the right side, but the percussion was perfectly sonorous. A poultice of hops was applied to the chest, and the next day was followed by a blister, which was sprinkled with a grain of the sulphate of morphia twice, daily.

On the 4th of June he was able to sit up. The right side of the chest was found to be more prominent than the left, it measured nearly two inches more in semi-circumference. Percussion gives a tympanitic sound over the whole right lung. On the left side it offers no changes. The respiration is almost absolutely wanting on the right side, a faint blowing inspiration is confined to the top of the lung. The cough and the voice both yield the peculiar resonance termed amphoric, and a metallic tinkling follows each effort of coughing. On the left side the respiration is expansive and natural throughout, except near the clavicle, where it is rough. Forty to fifty inspirations per minute; pulse quick, 120. (Four cups to right side. No change in other prescriptions.)

From the 4th to the 9th the dyspnoea constantly increased; countenance more haggard; decubitus on the left side. No change in the phenomena of auscultation.

Death in the morning of June 10th.

Autopsy nine hours after death.

Exterior.—Great emaciation; slight rigidity; limbs not livid; semi-circumference of right side, near the nipple, an inch and a half greater than that of the left. Percussion as sonorous as during life.—On perforating the right pleura above the nipple, a stream of air escaped from the opening with a whizzing sound, and at the same time the intercostal spaces evidently subsided. The right pleura contained about a pint of troubled serosity mixed with flocculi of lymph; the costal pleura was not reddened, but it was lined with a coating of irregular false membrane, easily detached from it. The lung was closely applied to the mediastinum, and was reduced to the thick-

ness of an inch; its pleura was covered with yellowish lymph, about the thickness of a dollar, which was partly disposed in a smooth layer, and in other parts was of a cellular aspect, like the false membrane usually found in pericarditis. The pleura was pale and wrinkled. The summit of the lung was occupied by a cavity the size of a small walnut; it was nearly empty, and lined by a firm cartilaginous membrane, with some patches of a soft internal coating adhering to it. An irregular perforation communicating with the cavity of the pleura, was seen near some strong adhesions which were limited to the vicinity of the tuberculous excavation. The opening did not exceed a line in diameter. The rest of the lung was of a grayish colour, perfectly permeable to the air, and contained numerous gray and yellow granulations. The left lung adhered at several points near the summit, which was filled with numerous yellow tubercles not exceeding the size of a large pea, and gray granulations, so as to render it nearly impermeable to the air; at the posterior part of the summit there was a cavity of the size of a large almond, lined with a cartilaginous membrane. In the rest of the upper lobe the tubercles were more numerous than in the right lung, but there was air in every part of the tissue. The bronchi were reddened, but not ulcerated in the neighbourhood of the cavities.

The heart contained fluid blood, but it was of the natural size and aspect. The other viscera could not be examined.

(To be continued.)

ART. II. *Observations on the use of Tartar Emetic in Obstetric Practice.* By EVORY KENNEDY, M. D., Master of the Lying-in Hospital, Dublin.*

IF it be the duty of the hospital superintendent to avail himself of the opportunities afforded him of investigating new and interesting plans of treatment, establishing what is correct and rejecting what is erroneous in practice, it is equally his duty to afford the results of his investigation and experience to the public. The following ob-

*This interesting memoir has been communicated to us through Dr. John T. Sharpless, of this city, who, whilst on a visit to Dublin, in Sept. last, received it from the author. When placing it in Dr. Sharpless' hands, Dr. Kennedy remarked, that it had been designed for the Dublin Journal, but that he was induced to embrace the opportunity of transmitting it to the United States, afforded by Dr.

servations assume to be, not merely the result of one or two experiments or accidental cases, but the report of practice adopted and tested by the experience of years in what will be admitted a sufficient field of observation. The plan here followed of selecting a medicine and treating of its efficacy in several different diseases, may appear to some to savour of empiricism. The only motive for this variation from ordinary habit is brevity, a plea that has novelty as well as simplicity to recommend it to my readers.

Tedious labour from Rigidity of the Os Uteri and Vagina.—Some patients continue for many hours in the first stage of labour, with partial dilatation of the os uteri and external parts, in whom there may be no want of what are significantly termed grinding pains, a state more frequently met with in first pregnancies and those who marry late in life. This state is to be carefully distinguished from false labour, which it much resembles, by the partial dilatation of the os uteri, protrusion of the membranes, and presence of glairy discharge. It may continue for some hours, rendering the labour more tedious than it would otherwise have been, the parts eventually becoming relaxed, and the labour terminating favourably; it may continue for many hours, exciting our dread as to the result of the case: or, in its more obstinate forms, it may persist so long as to wear out the mother's strength in unavailing efforts to overcome the difficulty it opposes to delivery, the mother, child, or both, perhaps, falling a sacrifice. The difficulties to encounter here, are premature, too forcible or irregular uterine action, propelling the child against the os uteri before it is sufficiently dilated or dilatable, and absolute rigidity of the parts. It should be constantly borne in mind that the first inconvenience is a very frequent cause of the second. With this view of the subject, then, the two objects to be held in view, are, mitigating too early, violent, or irregular uterine action when this is the cause of delay, and producing relaxation when rigidity is present. Of the efficacy of tartar emetic in producing the first effect, we shall presently treat, when on the subject of violent labour; for

Sharpless' return home, from a desire he had long entertained of contributing to the medical periodical literature of America.

Dr. Kennedy is the author of a valuable work on obstetric auscultation, with which we hope, on an early occasion, to make our readers acquainted. His position as Master and Resident Physician of the Dublin Lying-in Hospital, in which there are 140 beds, and about 2500 patients admitted annually, has afforded him ample opportunities for testing the principles and practice detailed in his essay.

ED.

the present let us inquire into its utility in the second. In tedious labour, from rigidity of the uterus, the os is found slightly gaping, with a thickened, tense state of the lips, and usually much heat of the parts. Bleeding from the arm, and on the continent the use of the warm bath have been had recourse to in these cases. Bleeding is attended with marked benefit when there is a full bounding pulse, in a strong plethoric habit: but, as a general practice, it is not unattended with inconveniences often of a very serious nature. It certainly procures relaxation of the os uteri, but along with this it causes depression of too permanent a nature, and may thus seriously interfere with the future progress of the labour. Tartar emetic solution has been successfully employed in producing relaxation of the os uteri in these cases, and possesses the advantage of being much less permanently debilitating. It is an agent by which the system can be with safety brought into a much greater degree of temporary depression; between which state and relaxation of the contractile tissues, a marked connexion holds, if they do not absolutely stand in the relation of cause and effect. The principal recommendation, however, to tartar emetic in these cases is, that in its use, the power of regulating the necessary degree of lowering the system, exists completely in the hands of the practitioner, as he has only to increase, or diminish, or suspend the dose, in order to produce the effect he wishes; and, when the necessary effect is produced, the withdrawal of the medicine leaves the vital energies but little impaired. The medicine has been used in the ordinary nauseating doses, as in pneumonia, 5 or 6 grains of the tartrate of antimony, dissolved in eight ounces of water, and generally 20 drops of laudanum, and a small quantity of syrup added; one, two, or more table-spoonsful of this mixture are given at intervals of from fifteen minutes to two, three, or four hours, according to the effect it produces, and the necessity that exists for bringing the patient speedily or otherwise under its influence. Sometimes it is necessary to cause free vomiting in the first instance, or the ordinary doses produce no nauseating effect; in such cases the laudanum is better withheld, but may be added afterwards if necessary. In other cases the medicine acts too violently as an emetic or produces purging; here increasing the quantity of the laudanum, and diminishing the dose, or allowing a longer interval to intervene between the doses, will be necessary. The accoucheur must, therefore, watch carefully the effects of the medicine during its administration in every case in which it is employed; these observations applying with equal force to the forms of disease in which its utility has been proved. Under some of the circumstances described, or where the antimonial in every

dose and form disagreed with the patient, small and frequently repeated doses of hippo [ipecac.] have been substituted (three to five grains every hour or second hour,) and with good effect, not only in rigidity of the uterus, but in the other diseases in which tartar emetic was found efficacious. It should be mentioned, that neither tartar emetic nor venesection have been relied upon singly in some cases where it has been necessary to produce speedy dilatation of the os uteri, and where the plethoric state of the system described was present. In such, after depletion, the patient was kept for some hours under the influence of the nauseating mixture. One case, in particular, of a most threatening nature, may be mentioned, in which a strong robust woman was brought into hospital with the arm forced into the vagina, through a tense, rigid, and slightly dilated os uteri. She was so treated, and with the best results. There is a somewhat different state of the os uteri, in which it occasionally dilates very tardily also; here the lip of the uterus is thin and stretched over the head of the child, not affording the sensation of heat or rigidity of fibre observed in the case above described. The extract of belladonna appeared of service in a few of these cases, although its general efficacy appeared very questionable. In two cases of rigid os uteri, in which it was freely used, its application was followed by head symptoms and depression of pulse; in one of which even insensibility and stertor were present. It was, however, tried in many other cases, without being followed by these unpleasant effects. The last described state of the os uteri is also occasionally benefitted by the nauseating medicine. It may depend, however, upon other causes, not under our present consideration, nor is it looked upon with the same anxiety by the accoucheur as a cause of tedious labour. In concluding this branch of our subject, let it not be inferred from what has preceded, that tartar emetic will invariably succeed in procuring dilatation of the os uteri; as it is in some cases found quite unavailing, in others inadmissible. Its efficacy, however, in a great many cases in which it has been used, fully warrant its attracting the attention of the obstetrician, and its success will depend much on a proper selection being made of the cases in which it is available.

Irritable or Violent Labour.—By no means an unfrequent cause of tedious labour is extreme irritability or violence on the part of the mother, a state most frequently met with in first children, and in the lower ranks, but not confined to these. The patient, from the very commencement of her labour, becomes violent and irritable, keeps constantly changing her posture, and, if in bed, tossing

about; is generally very violent and vociferous, and, when the pain is present, becomes absolutely uncontrollable. By this means she loses the effect of her uterine efforts—she don't wait for these to bear down, but keeps up a continued and unavailing straining at expulsion in their absence, and, when they are present, she becomes violently restless, and forcibly and suddenly inspires, in place of fixing her respiratory muscles to assist in expulsive efforts which would now prove availing. This state may continue for many hours, or even for days, with more or less complete dilatation of the os uteri, and with little or no advance of the child through the pelvis; the patient at length becomes fatigued. The irritation and restlessness continue, but the uterine efforts cease, and exhaustion setting in, we are obliged to have recourse to instruments to effect the delivery. In some, the os uteri is not even fully dilated at the period when force delivery becomes necessary, and the crotchet is then the only instrument available. In protracted violent labour, however, the child is dead in the great proportion before delivery, from the delay and violence of the parent. In these patients, where the pulse is full and the habit plethoric, venesection is often of service. The advantages that the use of tartar emetic offered in the cases already treated of, recommend it even more strongly to our notice in this. Long continued observation of its utility in cases of this kind, and the having found it procure the double effect of dilating the os uteri and soft parts, and suspending the irritability and violence which so much interfered with the natural progress of the labour, have convinced me, that by its full administration, in the cases described, we may often enable a woman to be speedily and safely delivered by her own efforts, who, without it, would have suffered from a tedious and dangerous labour, eventually, perhaps, requiring the use of instruments. To produce any good effect, it must be freely administered, the patient brought completely under its influence, and retained so whilst any tendency to irritability or violence remain; nor does it appear to suspend the labour altogether, as might be supposed; it merely mitigates or regulates the violence of the pains, and under its use the labour progresses, and the head advances into the pelvis. It should not, however, be persisted in so long as to reduce the powers of the patient too much; it should be discontinued when we have attained our object, quieting the patient. These observations will also hold as to its utility and application in the cases alluded to at the commencement of this paper, where the os uteri remains undilated from the occurrence of premature forcible or irregular uterine and abdominal efforts.

Puerperal Convulsions.—The efficacy of tartar emetic in puerperal convulsions, is quite as marked as in the preceding cases. It should, however, be understood, that it has not been used to the total preclusion of bleeding, which must always prove our sheet anchor in this violent disease. It renders unnecessary the repeated bleedings we have hitherto been obliged to have recourse to, as the only effectual means of checking or preventing the repetition of the fits. After one copious bleeding, the tartar emetic is to be freely administered, as already explained, and the patient kept well under its influence. The return of the fits will by this means, in the great majority of cases, be prevented; and even in the most obstinate cases, they will be lessened in their severity and frequency. Its administration must not be desisted from until the patient is delivered, unless it produces too great prostration, even in diminished doses; neither is its use to preclude a repetition of the venesection, if symptoms should be sufficiently urgent to require this; nor the use of such other local or ordinary means of treatment as are generally had recourse to. There is a form of puerperal convulsions, in which neither this nauseating plan of treatment nor free depletion afford the benefit generally derived from them; on the contrary, the disease appears to be aggravated by these. A remarkable case of this kind occurred some months since in the Hospital, in which, after the patient undergoing the ordeal of depletion, the nauseating mixture, as well as purgatives, shaving and cold applications to the head, sinapisms to the feet, blistering, and so forth, the disease was becoming more and more violent under their use, when she was put freely and rapidly under the influence of opium, and with almost magical effect. It would, however, be wandering from the original plan of this paper to go further into the subjects treated of, than in connexion with the use of tartar emetic in them; we shall, therefore, only add, that this medicine is admissible and eminently useful in all cases of puerperal convulsions, in which depletion proves serviceable.

Obstructed and Inflamed Mammæ.—There are two distinct states of the mammæ, occurring after delivery, which demand our notice. In both, pain and tenderness, tumefaction and hardness, are present; but one is an inflammation, the other merely an obstructed state of the organ; though the latter generally precedes and may produce the former, yet it does not necessarily go in all cases. There is no case within the range of obstetric practice so clearly under the control of the medical attendant, as the tumified, lobulated and obstructed state of the mammæ, and none so sure to terminate unfavourably, if improperly man-

aged. To treat it with effect, it is necessary to look to its cause. The immediate state is a vascular determination to the glandules, together with an accumulation of the lacteal secretion within the ducts and tubes, and often infiltration into the connecting cellular tissue; a state most frequently arising from a disproportionate action between the secretories and excretories. We can easily understand the frequency of the occurrence of this state of the breasts, when we consider how suddenly in most cases determination occurs to them after delivery. Let us, then, bear in mind the function the glandular part of the organ is so suddenly called upon to assume, and this, perhaps, for the first time: thus rapidly converting the freely determined blood into a nutritive fluid. Let us also call to mind the obstacles afforded to the escape and extraction of the milk in impervious, ill-formed, or diseased nipples, as well as the difficulty that opposes itself to the transmission of milk through ducts, perhaps for the first time; or after a long suspension of their action, called upon to perform the office of conduits for this new and rapidly formed secretion. These considerations tend to explain a fact observed in practice, that, with first children, or after long intervals from child-bearing, more trouble is experienced with the breasts, on delivery. When, in addition to what has preceded, we recollect the varying calibre of the conduits, their ramifications, and the accidental obstacles occurring in them, the effect either of present or previous disease, narrowing them, or perhaps rendering them altogether impervious, and amongst the most common of these, determination to certain parts of the organ, from exposure to cold, we need not wonder at trouble being so frequently caused by the breasts, after delivery, but rather feel astonished that milk abscess is so rare an occurrence. The rationale of the plan of treatment necessary to adopt will appear from what has preceded, to be, simply, checking or preventing too rapid a determination to the breasts, and relieving the ducts and tubes by facilitating the transit and escape of the milk when secreted. In effecting the first object, free saline purgation is necessary in the commencement, after which nauseating doses of tartar emetic appear to act almost as a specific in preventing inordinate determination. They also, no doubt, act in producing absorption. Tartar emetic, however, appears to effect the second object as well as the first, by its well-known power of relaxing contractile tissues, thus rendering pervious the lactiferous ducts and tubes, and accomplishing the double object specified. It is not to be understood that tartar emetic has been had recourse to in all cases where the breasts were hard and full after delivery, or even that this medicine would prove sufficient of itself to correct their obstructed

state. The general plan was to administer saline aperients, rub the breasts most assiduously, stupe them, extract the milk from them, if necessary, and improve the state of the nipples, if they were diseased or indented. In the great proportion of cases, this is quite sufficient to produce softening of the breasts with free discharge of the milk. It is only where this plan don't succeed, or that symptoms are urgent, that it is deemed necessary to nauseate the patient. The result of this practice is, that in the Lying-in Hospital, where it is strictly enforced, a case of abscess in the breast is scarcely ever met with. It is but right to state, that in private I have not found the practice succeed so well; a circumstance ascribable simply to the impossibility of having the necessary directions strictly and effectually complied with. Ladies get fatigued with continued friction, and they do not like the nauseating medicine. Where it has been fairly tried, however, its results have been the same as in Hospital. Friction to be attended with benefit, must scarcely for an hour be desisted from, until the hardness disappears and the ducts accommodate themselves to the secretions. The usual orders to our nurses are, "to rub until the breast softens under the hand." Warm oil is used to prevent irritation to the integument from the friction. In inflammation attacking the breasts after delivery, either the glandular or tubal structure, the investing sheath, or the connecting or surrounding cellular tissue may be engaged in the inflammatory action from the commencement, or the inflammation may occur consecutive upon the state of the breasts already described. In either case, throbbing pain, generally redness of the surface, with extreme tenderness to the touch, and hardness at one part, will be present; and these symptoms may be ushered in with a rigor, or rigors may occur in their progress. When this attack is observed, the patient is to be put immediately and freely under the influence of the tartar emetic. If purgation has not been previously attended to, a grain of tartar emetic, given in a full dose of black bottle, is a good commencement. This should be speedily followed by the nauseating mixture, and if vomiting should be twice or thrice freely produced at the outset, all the better, provided our patient can bear it. Warm stuping and fomentations must be used, and the breasts drawn by a strong healthy child, or by the exhausted bottle, and friction, if unattended with much pain, is to be persisted in. Leeches, under this plan of treatment, are seldom necessary, and their efficacy, when used, appears very questionable. By a steady perseverance in this plan, in cases even the most unpromising, the inflammation has been again and again subdued.

The child was generally applied to the breast early after delivery, at least as soon as milk could be obtained. Ulcerated and fissured nipples, which did not improve under slight stimulating lotions, as Sir A. Cooper's spirit and borax wash, were touched with a solution of nitrate of silver, 10 or 20 grains to the ounce, a plan found particularly serviceable where there were sprouting granulations or excrescences projecting into the fissure, attended with excruciating pain. In obstinate cases of this kind, even touching with solid caustic was necessary, and often relieved the patient from immense protracted suffering.

Puerperal Mania.—This form, which constitutes so great a proportion of the maniacal cases met with not merely in the Hospitals for insane, but in the incurable cells, when treated properly from the commencement of the attack, is a very manageable disease. Were it only for its efficacy in this distressing malady, the accoucheur should esteem tartar emetic as a most invaluable article in his prescription formulary. In a several years observance of this medicine's application, in Hospital and private practice, but two or three cases have been met with which held out against it, when commenced sufficiently early. The moment a patient was observed to exhibit any incoherence after delivery, attended, as it usually is, with rapid pulse and wild expression of the eye, she was placed under its nauseating influence, and retained so for 24 or 36 hours, or longer if necessary. In almost every case the disease yielded immediately; the real ills produced by the medicine taking the place of the imaginary ones previously occupying her attention. The only treatment in general necessary, in addition to this, being the administration of aperients, and ensuring sleep by free opiates, when the patient had been sufficiently subjected to the action of the tartar emetic. Diagnosis in puerperal mania requires attention. The case most likely to be mistaken for it, is hysteria; an affection of no very uncommon occurrence after delivery. An error in diagnosis, between these diseases, is not, however, attended with any very serious inconvenience in the treatment, as I have found from experience the plan here recommended for puerperal mania proves most effectual in curing hysteria; although it is, perhaps, somewhat more violent than the nature of the case demands. It may be right to mention that two fatal cases of peritonitis occurred in Hospital, which commenced with all the symptoms of puerperal mania, and which were treated at first with tartar emetic. In one case, in the course of a few hours from the exhibition of the maniacal symptoms, in the other, after a lapse of two days from their commencement,

unequivocal evidences of peritonitis set in, and in both the disease ran rapidly to its fatal termination. A peritonitic tendency was very prevalent at the time. In puerperal mania peculiar care is necessary to prevent the depressing effects of tartar emetic being produced, and with this view a larger quantity of laudanum may be added to the nauseating mixture. Patients labouring under this disease, are not able to bear the same active treatment as some of the other cases alluded to where this medicine has proved efficacious. The pulse in puerperal mania, whilst it is very rapid, is generally small and hard, often wiry, and here a medicine possessing such depressing propensities must be used with the greatest caution. A case occurred to me in consultation with Dr. Harvey, of this city, some years since, strongly illustrating the necessity of caution in this respect. We had placed our patient under the influence of the medicine, with the usual directions to her friends of administering or withholding it, as might be necessary. These, however, were unattended to, and on our next visit we found her in a most alarming state. The medicine having reduced her to such a degree of debility as to deprive her of the power of motion, her pulse was barely perceptible, and extremities and surface quite cold. Stimulants were freely administered, and friction and warm applications used to the surface and extremities, and she immediately recovered, not merely from the remedy, but from the original disease.

In concluding this paper, it may be mentioned, that it is not swelled out with cases, (an abundance of which could have been furnished,) as it is neither wished to extend it unnecessarily, nor to put forward the practice recommended as that tried experimentally in a few cases, but as the ordinary plan of practice adopted, as well in private as in an Institution containing 140 beds, and where about 2500 patients are annually admitted. As much of it was adopted by my predecessor in office, Dr. Collins, an opportunity will shortly be afforded of testing its success, and observing the proportion of recoveries in these cases, recorded in that gentleman's report of his seven years' mastership, shortly to be published; and it is confidently anticipated that in this report will be exhibited a degree of success, not merely in the cases treated of, but in midwifery practice generally, never before recorded. I ventured to publish an expression of my opinion of Dr. Collins' talented, accurate, and laborious undertaking two years since, how far correctly, the recent vote of thanks presented by the Anatomical Section of the British Association to him, for this very report, has proved.

Dublin, Sept. 1835.

ARTICLE III. *Report of a Committee of the Philadelphia Medical Society, appointed December 27th, 1835, to investigate the Character of Stagner's Truss, and other proposed means of Radical Cure in Hernia.*

[Read on the 5th and 12th of December, 1835, and published in accordance with a Resolution of the Society.]

Due attention has been given by your committee, to the duties prescribed by the Society; but various circumstances have combined to render the investigation of the subject both tardy and imperfect. Fully impressed with the extreme caution required in forming conclusions concerning changes of structure taking place in parts of the body concealed, not only by the integuments, but by tendinous matter and fascia, and where the nature of the disease renders the opportunity of post mortem examination exceedingly rare; your committee has been desirous of avoiding that blameable haste in the decision of important questions which has too frequently given to plausible, but ingenious methods of treatment, a temporary reputation, to the abuse of public confidence and the injury of the profession, by granting to empiricism the weight and influence of great names.

The small amount of evidence which has been offered to the members of the committee at this early period, does not warrant them in entering at present upon the wide field of their labour, but it would be unjust to the public to withhold for a long time the facts already in their possession, and the deductions which can be drawn from them with safety.

It will be remembered by the Society, that during the last session a lecture on the radical cure of hernia, delivered by one of the members of the committee, induced a debate, during which the merits of the then novel instrument of Mr. Stagner were discussed, and a history was given of its extra professional origin and its reported effects, said to have been observed by many medical gentlemen in the states of Ohio and Kentucky. The modification and alleged improvement of the truss of Stagner, as patented by Dr. Hood, was presented to the lecturer, on behalf, and in the presence of, that gentleman, and an opinion upon its merits was publicly requested.

In the absence of any practical illustration of the operation of the instrument, the lecturer confined his observations to the mechanical principles upon which it was constructed, and expressed strong doubts of its general applicability; pointing out at the same time several varieties of hernia, for which, in his opinion, its employment must

necessarily prove either nugatory or positively injurious. He was met by the announcement, on behalf of Dr. Hood, that the inventor was in possession of other forms of trusses and apparatus, equally applicable to the exceptionable cases mentioned. As these statements, together with the opinions of men of authority quoted on the occasion, and the limited observations of some of the members present, upon the operation of the instrument in the few and very recent cases which had then been treated by this apparatus in Philadelphia, did not form a body of evidence sufficient to confirm the society in any general conclusion upon its claims, the present committee was appointed at the suggestion of one of the members, with the approbation and concurrence of Dr. Hood. The committee was directed, not to confine itself to the consideration of the truss of Stagner, and its modifications, but to enter more at large upon the great question of the radical cure of hernia.

At the close of the meeting, Dr. Hood politely offered the committee every facility for the observation of cases under his immediate care, but, unfortunately, that gentleman left the city before any arrangements were made for the prosecution of the investigation, and no overtures toward any official communication with the committee were afterwards made by his successors, until the dissolution of the connexion between Dr. Bodder and Mr. Chase, who, as your committee are informed, became the purchasers of shares in the privileges conferred by his letters patent.

Confining its attention, as your committee feels bound to do, to those facts which have fallen within the personal knowledge of its members, with the addition of a few details given upon high authority, and on the responsibility of the narrators, it must be permitted to regret, that the very few cases in which the members have witnessed the effects of the modification of Dr. Hood, have not been treated under his immediate supervision, although, in one case, the application of the instrument (according to the statement of the patient) was made by him. It is also to be regretted, that the specimens of the peculiar blocks designed by that gentleman for the treatment of abdominal, direct inguinal, and femoral hernia, have been furnished, not by himself, but by one of the gentlemen who succeeded him in this city; but the character of the latter is a sufficient guaranty for their validity.

In order to bring the subject matter of this preliminary report properly before the society, it will be arranged in the following order: 1st. The history and description of Stagner's block; 2nd. The reasonings upon the *modus operandi* of Stagner's block, and the intro-

duction of the modification of Dr. Hood; 3d. The mechanical excellencies and defects of Hood's Inguinal Block, and the other reputed apparatus of the same inventor; 4th. The several modifications claimed by Mr. Chase; 5th. The notes of cases observed by the members of the committee, by Dr. B. H. Coates, and by Dr. Gerhard; 6th. Opinions of the committee on the retentive power of the several apparatus; 7th. Extent of evidence in favour of the chances of radical cure; 8th. Speculations on the causes of the beneficial results of the apparatus; 9th. The question of novelty; and 10th. Conclusions.

1. It appears, by current report, that the block of Stagner originated in an accident. A man engaged in out-door occupations, found that his truss, a common and an old one, did not properly retain the bowel, owing to a defect in the pad. Unwilling, at the moment, to leave his labour, or unable to procure immediately, another truss, he thrust a small piece of wood with an irregular surface, beneath the pad. The hernia was then retained, and he wore the apparatus for some time, with no other inconvenience than a soreness of the part. Ultimately, upon removing the instrument, he was surprised to find that the bowel no longer descended. The man is said to be radically cured. The fact being circulated in his neighbourhood, blocks, in imitation of the pad, with its accompanying piece of wood, were applied in other cases, and, it is said, with success. From these attempts resulted the block of Stagner. Its form baffles all attempts at mathematical description; and graphic illustration or actual inspection is necessary to its full comprehension. (See fig. 1.)

The best idea of its appearance that can be conveyed in words, is this: It resembles considerably the stuffed pad of the common trusses, very much acuminate at the extremity next the spring of the instrument, and strongly compressed on its superior and internal face, so as to render the curvature on this side gentle, while that on the side next the pelvis is rendered very abrupt, and almost rectilineal. The junction of the two surfaces, on the most prominent line of the block, is very rapidly rounded, and almost angular. The whole convex surface is rendered rugose by the intersection of little planes (facets) produced by the knife in carving, which are purposely left prominent.

2. The theory of the action of this block in effecting the radical cure of hernia, (by whom originated, your committee is unable to state,) is this:—An irritation of the skin, and subcutaneous cellular tissue, is produced by the pressure of the hard, unyielding, and rugose block, and is gradually extended to the tendons beneath, as well

as to the serous membrane of the sac, which is closed and obliterated at its neck; the whole mass of integument, tendon, cellular tissue, and sac, being agglutinated by the process of adhesion, in such a manner as to oppose an insuperable barrier against the exit of the intestine. Such is, in few words, a statement of the position taken by Dr. Hood, on the evening of the meeting already mentioned. It differs from that contained in his specification, chiefly in being more detailed. The opinion of your committee on this subject, based upon the facts which will be presently stated, is postponed to the narration of the cases in which the application of the several modifications have been observed. The rugosity of Stagner's block was found to produce an irritation of the skin, more severe and painful than appeared necessary for the creation of the mild inflammation thus hypothetically required for the accomplishment of the radical cure. Hence the contrivance of the modification of Dr. Hood, for Inguinal Hernia.

Your committee have examined this Block with great attention; they can discover no peculiarity in its structure, other than the simple fact that it is rendered smooth. It is the Block of Stagner, with its numerous plane faces pared down into uniform convexity. (See fig. 2.)

5. In examining carefully the mechanical principles involved in the common inguinal blocks of Stagner and Hood, these instruments appear to possess one important advantage over the more common forms of the soft pads of the trusses in general use, and they are likewise liable to two equally important objections. The advantage is found in the gradual arch of the abdominal face of the block, which causes it to adapt itself more regularly than the elipsoidal pads, to the peculiar form of that part of the abdominal parieties in which the inguinal canal is placed, and in the abruptness of the pelvic face, which enables the instrument to approach more nearly to the pubis, without overlapping that bone, and occasioning serious inconvenience to the patient, while, at the same time, efficient pressure is effected at the lower end of the block.

The great objections are these:—1st. The tendency to an elongated semi-fusiform shape, renders the block so extremely prominent at the lower extremity of its shoulder or most prominent line, that the remainder of that line produces no very efficient pressure upon the rout of the inguinal canal, the principal effect of the instrument being confined to the neighbourhood of the external ring, and the more important point—the internal ring—being left insecurely supported. 2nd. The great elevation of the lower end of most of the

blocks, seen by your committee, is calculated, in part, to counteract the advantage of the gentle curvature of the abdominal face, by causing the shoulder of the block to act in a linear manner, the strong compression being confined to a very narrow space, as has been proved by cases under the observation of the committee. This error increases the uncertainty of retention, and it is unnecessary to the production of irritations amply sufficient to fulfil the hypothetical indications pointed out by the inventors—a fact of which your committee have had, in their opinion, sufficient practical evidence. Moreover the same peculiarity of form causes the lower or internal extremity of the shoulder to act upon the external ring, somewhat in the manner of a very small pad, and hence, in ventro-inguinal hernia, there would be strong danger of a consequent dilatation of the ring, and an exacerbation of the disease.

It is probably owing to the last mentioned difficulty that Dr. Hood has been induced to contrive one of the two blocks for ventro-inguinal hernia, termed in his specification, the block with a parabolic projection. (See fig. 3.) The best idea of the peculiar form of this block, is conveyed by supposing the upper surface of the common soft pad of an ordinary truss, to be compressed until it is made to overhang its base upon the lower or outer side, and also at its lower or inner extremity. This compression widens the lower part of the pad, and diminishes its thickness; thus in part removing the objections urged against the common inguinal block; and it is still occasionally employed by Mr. Chase, with little modification, in cases of ventro-inguinal hernia. (See fig. 4.)

The object of this block, according to the tenor of the specification, is to produce a union between the parts about the margin of the ring and the fascia superficialis. Your committee are not in possession of any evidence at present, which will warrant them in either affirming or denying the possibility of such an effect as a consequence of the action of the instrument.

The Society is presented also with the pad invented by Dr. Hood, for the treatment of Femoral Hernia, both with and without the spring of the truss. (See fig. 5.)

We forbear to detain the Society with a complete analysis of its intended mechanical operation, referring the curious to the certified specification of Dr. Hood's patent, obtained from the Patent Office at Washington, which lies upon the table. Its chief design, however, was to produce a closure of the femoral ring, an effect which, in the opinion of your committee, cannot result from such an instrument, owing to the peculiar relation existing between the edges of Poupert's

and Gimbernat's ligaments. Your committee feel compelled to disapprove of this pad, as uncertain in retentive power, and necessarily extremely annoying to the patient.

This ground is taken on plain mechanical principles, and does not appear to require the test of experiment. But if evidence of this character be demanded, it can be given by one of the most ingenious members of the Society, who has actually and faithfully employed it.

In the specification of Dr. Hood, much is said of certain apparatus of a very complex character, in the form of numerous belts, draws, spring belts, compresses, springs, &c., with explanations of their *modus operandi*, and claims to originality with regard to special portions of these contrivances.

Specimens of these apparatus lie upon the table, but your committee does not feel warranted in detaining the Society, by offering any remarks upon them here, because after waving all the numerous mechanical and physiological objections to their use, their complexity alone still rests as a most formidable barrier against their claims.

For Umbilical Hernia, Dr. Hood has also patented two forms of block.

These are designed for application, by means of a peculiar belt, also claimed as original; in the centre of which is a metallic plate, connected by means of a spiral spring with another similar plate, upon which the block is secured. The spring is not claimed by the patentee, and in the blocks your committee discover nothing unusual, except the material of which they are composed. Hard blocks of other substances than wood, and of the same forms with these, have been long in use, and have been employed by one of the members of your committee with complete success, in effecting a radical cure in one case, and an apparently radical cure in another; no protrusion having taken place in the latter for three years after the close of the treatment, though some traces of the serous sac are still discoverable. Both the patients were at an age verging upon that of puberty.

With these remarks, your committee close this division of their subject.

4. In the month of July last, Mr. Heber Chase, who had purchased of Dr. Hood an equal right in the privileges claimed by that gentleman, in virtue of his letters patent, expressed to the chairman of the committee a desire that the merits of certain improvements upon the blocks already noticed, claimed by him as original, should undergo a full investigation before the committee, both as regards their mechanical principles and their practical effects. Throwing himself upon the profession, and before the world, the committee feel bound to bear honourable testimony to the disinterested frankness with which this

gentleman has facilitated their investigations, even when these have conflicted with his interests. Claiming no exclusive privileges, and concealing no failures—he has presented to the committee all the evidence which their rather tardy action on his suggestions have enabled him to produce; and they have now the satisfaction to announce, that, commencing their researches with doubt, and with rather unfavourable preconceptions, their opinion has been rendered highly favourable to the claims of several of his improvements, by the weight of the few observations which they have been enabled to make. Your committee will not permit, however, any feeling of personal gratification to interfere with the rigorous analysis and honest report of surgical facts. The members are not disposed to suffer the influence of *men* to interfere with their calm judgment of *medical opinions*.

The blocks heretofore employed by Mr. Chase, in inguinal and femoral herniæ, are all uniform in shape, varying only in size. The models on which they are formed, may be described as longitudinal sections of oval spheroids, generated by a revolution of the curve round its long axis, and afterwards moulded by a force producing a considerable flattening on one side, and a much more abrupt curvature upon the other. (See fig. 6.) It will be perceived that these blocks possess all the advantages of the inguinal block of Dr. Hood, while they escape all the objections urged against that instrument, so far as relates to the true or common inguinal hernia.

In ventro-inguinal hernia, they are perhaps less applicable than the block with parabolic projection of Hood, which has retained the bowel with surprising certainty in several bad cases under the immediate eye of the committee, though neither Mr. Chase nor the committee are as yet convinced that they have approached the highest point of improvement in cases of this character.

In common inguinal hernia, the block is generally applied in such a manner that the surface strongly pressed upon, always includes the site of the internal ring, and nearly or quite the whole length of the inguinal canal, but the parts over the external ring are seldom entirely included.

The dimensions of smaller blocks are intended for femoral hernia. Improvements upon those designed for this purpose, have been proposed, and will be tested hereafter. The evidence of the effects of the present blocks, in one or two cases, will be laid before the Society in the sequel.

With regard to umbilical hernia, your committee has no practical evidence to offer, nor is there any pretension to originality in the mere form of the block recommended by Mr. Chase, in this affection.

Your committee have confined their remarks to the mechanical character and operations of the blocks and pads, because in this part of the apparatus alone do they perceive both sufficient novelty and importance to warrant the serious attention of the Society.

5. The committee will now proceed to detail the notes of such cases presented for examination by Mr. Chase, as have been made the subject of written observation by its members and a few of their friends.

CASE I. *By the Committee.*—October 5th, 1835.—P—— B——, a vigorous seaman, aged 58 years, has been subject to ventro-inguinal hernia since May, 1825. The bowel descends into the scrotum, and the hernial tumour is said to be enormously large occasionally. The sac is much thickened and extensive, constituting by itself, no inconsiderable tumour when the hernia is reduced.

The accident occurred suddenly, while raising an anchor, the patient being at the time submersed in water. The bowel has never been strangulated. B—— is very subject to attacks of colic, but these appear to have been unconnected with any mechanical obstruction of the intestine; as they occurred not less frequently before the accident. A truss, with Chase's ovoidal block, has been applied since the 15th of July. Two attacks of colic have taken place since that time; and on each of these occasions the pad was removed, and the hernia descended. The last descent took place on the 28th of September, and then, for the first time, the patient was unable to return the hernia without assistance. He sought aid from Mr. Chase next day, and the intestine was reduced with some difficulty, produced, as Mr. C. supposes, by the gradual contraction of the ring under the course of treatment. The mouth of the sac was originally so large that the skin could be depressed into the abdomen until the patient could pass three fingers through the ring. After the return of the protruded parts, on the 29th ult. he could not detect the aperture. He has complained, occasionally, of some slight excoriation from the action of the block, but this has never occasioned severe pain. Such is the statement given by the man himself, corroborated by Mr. Chase, and record book of cases.

The committee do not think it warrantable, in justice to the patient, to make any examination of the parts beneath the block, until time has been allowed for a more complete condensation of the parts. Mr. Chase scarcely anticipates such a cure in this case, as will ever enable the patient to dispense entirely with a truss; particularly on account of the nature of his occupations, which are very laborious.

Oct. 13th.—B. appeared before the committee. A very considerable descent of the bowel had taken place from beneath the block. He states that he was yesterday engaged on an election frolic, walked a greater distance than he had done at any previous time for many years, and drank "a great deal too much." The truss was removed, the bowel reduced by Mr. Chase, and the ring examined by the committee. The hernia was direct, and the orifice large enough to admit two fingers.

Dec. 5th.—Since the last date, this patient has been presented before the committee twice, his bowel has been pretty steadily retained by the truss, but another year, at least, will be required to enable the committee to judge of the full effect of the treatment under such unfortunate circumstances. At present, the case is

regarded as incapable of radical cure by any means, but the patient enjoys more comfort than he had before experienced at any time subsequent to the accident; and he is now able to attend regularly to his business. Within the last few days he has used a block similar to the smaller wooden plano-convex blocks, which Mr. Chase employs in umbilical, ventral, and occasionally in ventro-inguinal hernia. Of the propriety of the latter change, the committee will express no opinion.

CASE II. By the Committee.—Oct. 5th, 1835.—Master S——, a fine healthy lad, 13 years of age, has laboured under inguinal hernia of the right side for about seven years. The tumour has never been of very large size, and is thought to have been first caused by a fall.

This lad had used Mr. Chase's truss for about two weeks, never having previously employed any other instrument. The case was examined a few days ago by Drs. Horner, Hays, and Bryant, when the truss was removed, and the patient was permitted to cough, without experiencing any descent of the bowel. The hernia has not been down since the first application of the truss.

The committee requested Mr. Chase to remove the truss, which he did. The parts beneath the pad, and for some distance above it, were evidently in a state of considerable irritation. Some scattered ecchymoses were visible, and slight contusion was obvious over several square inches of surface. The temperature of the skin was but little exalted, the swelling was very slight, there was no complaint of pain on pressure, and no febrile reaction. The boy says that the instrument has never given him much pain, but now and then some uncomfatableness, which has induced him to slacken the perineal strap occasionally, so as to alter the bearing of the block; hence the great extent of the irritation. The action of the block has not extended to the external ring, into which the tip of the little finger could be introduced, by reverting a portion of the skin of the scrotum, but the upper two-thirds of the abdominal canal, and the parts around the internal ring are completely involved in the marks of irritation.

The committee did not think it right to subject the patient again to the danger of coughing, so early in the progress of the treatment, and the case is therefore left sub-judice.

Oct. 13.—This boy appeared before the committee; truss removed; the ecchymoses have become less apparent; the redness continues; there is a depression of the integuments where the block rests, obviously resulting from some lasting compression in the sub-cutaneous cellular tissue. Truss reapplied.

Dec. 5th.—This case has been constantly under the eye of the committee from the last date, and the hernia has never descended. Leaving off the truss with impunity for short periods of time, while running about, he still reapplied it, by the special request of his father, when wandering long distances into the country. At the date of the last note, Nov. 24th, there was no appearance of tumour; there was slight blueness of the integuments on the affected side, but no other difference between the two sides was observable.

Your committee have the most favourable anticipations in this case.

CASE III. By the Committee.—October 7th, 1835.—J—— B——, a gentleman well known to many of the members, aged about thirty years, in good general health, has been subject to regular inguinal hernia on the right side, for about four months. He cannot account for the accident. Soon after the appearance of the tumour, he requested the opinion of Dr. Horner, who pronounced upon the character of the disease, and recommended him to the care of Mr. Chase. The truss, with Hood's common inguinal block, in default of Mr. Chase's, was first applied on

the 22nd of June, and Mr. Chase's block was substituted as soon as prepared, about two weeks after the commencement of expulsion of the bowel.

The truss was removed to facilitate the examination. The lower part of the abdomen was rather unusually prominent, particularly in the space midway between the superior anterior spine of the ilium and the symphysis pubis, on each side, where it swelled obviously outward, like a spherical tumour. This prominence was not produced by adipose matter, or by any other deposit in the subcutaneous cellular tissue, but was plainly the result of a slight enlargement of the abdominal cavity in this region. The skin above the brim of the pelvis was easily depressed into the external ring, by the finger, so that it was altogether unnecessary to revert the skin of the scrotum, in order to facilitate the examination of this outlet.

The external abdominal rings were unusually large. The point of the index finger entered them readily, and to such an extent that it could be made to engage itself beneath the outer edges of the rings, which were thicker and more abruptly defined than usual. The rings were not only broader, but much longer than common; probably from a deficiency of the transverse fibres which should strengthen the connection of the two columns of the tendon of the external oblique muscle, at the summit of each ring. It is obvious, from these remarks, that the patient had a predisposition to inguinal hernia, probably from his birth.

The external ring on the right side had not been in any degree affected by the pressure of the truss, but the parts covered by the block presented an erythematous blush, which indicated considerable irritation. This irritation extended over nearly the whole length of the abdominal canal, and to a considerable distance around and above the site of the internal ring. The patient did not complain of any notable inconvenience from the pressure of the block.

The index finger was placed above the external ring, and the patient was caused to make strong and repeated efforts to cough. This caused a sensation of a strong impulsion directly outward from the abdomen, to be felt by the finger; but no tendency to dilation was observed in the abdominal canal. Precisely the same results followed the experiment when essayed in the same manner on the sound side.

It is somewhat difficult to account for the security of the bowels in the present state of the case. It is true that the course of the spermatic cord through the canal, is rather more distinctly traceable on the right side than on the left, and the tendinous covering of the canal on the same side feels somewhat harder to the touch; but there is no appreciable thickening of this part, nor is there, as yet, the slightest condensation of the skin or subcutaneous cellular tissue. The former, indeed, glides over the surface of the fascia beneath, with rather unusual facility.

Oct. 24th.—The patient is still under treatment, but has made several efforts while the truss was removed, without any protrusion of the bowel, and this accident has never occurred since the first application of the truss.

CASE IV. By the Committee.—A rude boy, aged about 9 years, labours under inguinal hernia on the left side, which was caused by pertussis when he was two years old. The boy suffers very little inconvenience when the hernia is down, and seems to care nothing about it. Ring rather large. Hood's truss, with a block now in our possession, was applied by him, *March 31st, 1835*. It was worn constantly for two months; then occasionally, until the present time. During this period of time, the bowel has descended occasionally, but has been reduced by the patient or the operator, with the utmost facility.

Oct. 10th.—Yesterday the patient was produced before Dr. Ashmead, who found a portion of intestine in the sac. The block of Mr. Chase, i. e. the common inguinal block, will be applied to-day, for the first time. The patient had worn other trusses, none of which prevented the descent.

Oct. 13th.—The committee examined C—— this day. The truss had not prevented the descent. The bowel was returned by Mr. Chase, and the truss reapplied. The boy is extremely careless, and was not himself aware of the descent. He had been exercising himself violently in trundling a hoop, and had neglected an appointment made for the purpose of having his truss properly adjusted.

Dec. 5th.—This patient has been frequently before the committee, and the retention of the bowel, since last date, has been perfect. Considerable irritation of the parts beneath the block are still subsisting, and slight efforts, without the truss, do not produce protrusion. The case looks very favourably, when the habits of the boy are taken into account. He still wears his truss.

CASE V. By the Committee.—*Oct. 10th, 1835.*—Mr. ———, a gentleman of high respectability, well known to one of the members of the committee, was examined by the committee on this day. Age about 35 years.

The patient suddenly became subject to hernia, in running after an omnibus, between three and four months ago. He has worn Chase's truss, with the common inguinal block, for about three months uninterruptedly. The bowel has never descended since that time.

Condition of the parts.—There is a well-defined redness of the integuments, at the part covered by the block; but there is no trace of condensation in the subcutaneous cellular tissue. The external ring on the affected side seems to be a very little contracted and firmer, for which fact it is difficult to account, as the block does not act at this point. It may possibly result from a congenital peculiarity. The sliding of the skin over the abdominal canal, is not restricted.

Tests of radical cure.—The patient was examined by Dr. Hartshorne, a few days ago. His truss was removed, and he was requested to cough, which he did, as he states, repeatedly and violently, while the doctor made every necessary examination of the parts. Dr. H. then stated, that "he saw no marks of any thing wrong about the case." Slight efforts to cough were made before the committee. There was evident propulsion of the integuments immediately over the internal ring, but they were not appreciably greater on the diseased than on the sound side.

The probabilities of radical cure, in this case, are very strong; but the committee, not wishing to hasten Mr. Chase, in subjecting the case to any farther test, by their advice, simply requested to see the patient occasionally, after the final removal of the truss. Truss continued.

December 5th.—There has never been any return of the protrusion since last date. The patient has attended to his business, without a truss, for some weeks past. The probability of radical cure in this case, is *very strong*.

CASE VI. By the Committee.—Mr. P——, a highly intelligent and athletic English gentleman, has laboured under inguinal hernia on the left side, for a number of years. The cause of the accident is unknown to the committee. He had worn a variety of the most lauded trusses before applying to Dr. Hood. No truss had ever retained the hernia effectively. He applied Dr. Hood's truss under his direction, and continued it for more than four months. This truss produced great pain, probably from pressure on the brim of the pelvis, and it did not effectually prevent the descent of the bowel.

Oct. 13th, 1835.—Examined by the committee. This patient is a remarkable example of muscular power, and his abdominal muscles are exceedingly strong.

The abdomen is of an unusually rounded form, and there is a thick layer of adeps over the lower part of the abdomen, which is only partially absorbed under the pressure of the pad, although considerable irritation had been produced.

The external abdominal ring cannot be distinctly felt, in consequence of the amount of adipose matter in the subcutaneous cellular tissue. This is a very unfavourable case for the action of trusses, yet although no instrument previously employed had been able to retain the bowel under ordinary exertions, the patient has had no protrusion since the first application of Mr. Chase's truss, which has been steadily worn since May 20th, 1835, and he has led, for a considerable part of this time, the life of a hunter, leaping fences, riding desperately, and following the favourite pursuits of an athlete. He is enchanted with the instrument, and protests that he is generally insensible of its pressure.

Dec. 5th.—This patient has not appeared again before the committee, probably because much of his time is occupied in field sports.

CASE VII. *By D. I. Parrish.*—*Ventro-Inguinal Hernia.* ———, aged about 33 years, a sugar refiner, accustomed to lifting heavy weights, has had a rupture for seven years. The first descent occurred in the act of lifting a heavy barrel. When he ascertained the nature of the injury, he bought a truss of a druggist, which he wore for about a year; this succeeded in retaining the parts, and on removing it, he found that no protrusion took place. At the end of a year, thinking that he was cured, he threw aside the instrument, and continued his laborious occupation without it. In about two months, while lifting a heavy weight, he had another descent. He had recourse to trusses again, but never could procure one which he liked as well as the first. He frequently experienced difficulty in keeping up the bowel. The hernia continued in this situation until May 13th, 1835, when he applied Chase's truss.

At this time the surgeon thought that the rings were unusually large, and near to each other. The health of the patient was much impaired; he had nausea and eructations, particularly after eating; constipation of the bowels; general debility, &c.

He states that he experienced considerable pain and soreness for some time after the first application of the instrument. This subsided, and lately the truss has been very easy. He has been in the practice of removing it at bed time, for some weeks.

1 Mo. 21.—Saw him in the evening; he had removed the instrument about two hours before, and had walked some squares; he has removed it for a few hours once before, without a descent. There has been no appearance of the tumour. There has been a slight increase in the natural hardness of the parts about the rings. The passage of the finger through the abdominal rings appears to be obstructed.

He states that his general health has been much improved since applying the instrument.

CASE VIII. *From notes by Mr. Chase.*—*Examined and approved by Dr. B. H. Coates.*—*Oct. 13th.*—I visited this day, in company with Dr. B. H. Coates, Miss M—— S——, aged about 28 years, and found her labouring under a femoral hernia on the left side. The protrusion was about as large as a walnut. Cause unknown. The accident occurred about two years ago. The patient has suffered several times from obstruction of the bowel; she has been obliged to confine herself repeatedly to her bed, and has suffered much pain and great inconvenience from the disease.

15th.—On examination, we found the protrusion of the bowel greater than it

was on the 13th. By steady taxis, the bowel was reduced in four or five minutes, and the truss with the femoral block was applied in the presence of Dr. Coates.

16th.—Visited the patient with Dr. C. We found the patient comfortable; she complained of a little soreness.

19th.—Up to this period the patient has laid her truss aside at night. She found the tumour slightly apparent. It was much smaller in the morning, nor did it give her pain on its appearance, as it had done previously to the application of the truss. Directed her to wear the instrument day and night.

21st.—We again visited the patient, and found her attending to domestic affairs. The bowel had not appeared since the last visit.

26th.—The patient has attended church. She walked much on Monday and to-day. She complained of soreness beneath the block.

30th.—The bowel has not passed down; the soreness has in great measure subsided.

Nov. 10th.—The truss is now worn with ease.

30th.—The truss is still worn with ease. It is thrown off at night.

CASE IX. *By Dr. Ashmead.*—Master Ruth, aged 6 years, with a robust constitution, has congenital inguinal hernia of the right side. It is large, and passes into the scrotum. The external ring on both sides large and relaxed, the patient having tried two or three different forms of trusses, directed by physicians, and these failing to retain the bowel, for a single day, and having suffered severely from them, the mother then despairing of a cure or relief, permitted the lad to go without any support of the parts. But the boy having suffered symptoms of strangulation several times, I was called to see him, and directed Mr. Chase's truss to be applied. At the time the bowel was readily restored, but, on removing the thumb from the ring, while the patient was in the erect position, without any effort being made, it immediately fell down to as great an extent as before. The truss was applied by Mr. Chase on Oct. 16th, 1835, and it has completely and uniformly retained the bowel within the abdomen so that it has not once since descended. And now, December 4th, the bowel does not descend, even when the truss is removed and the patient stands erect and still; though so short a time has elapsed since its adjustment. I thought it wrong to make him cough or exert his abdominal muscles, to show how far it would be retained. The sack is thickened and remains down. Slight inconvenience was at first felt from the pressure of the block, though the spring is not stronger than those in general use, (perhaps not so strong.) It produced inflammation of the skin beneath it, which was moderated by several folds of linen under the pad. Now no inconvenience is felt, and it has ceased to irritate the parts. In this case the block is placed over the external ring and lower half of the abdominal canal. No evidences of thickening of tissues or adhesion of parts about the external rings as yet exists. The case is still under treatment and observation; and its future result will be communicated when sufficient time has elapsed to judge of its final success.

CASE X. *By Dr. Ashmead.*—æt. about 30 years, good constitution, sedentary habits, occasionally uses violent exercise, small femoral hernia of left side for two years.

For this affection the patient has tried a variety of trusses, with strong springs and soft large pads, all of which failed in retaining the protruded intestine; so that he despaired of ever being cured. In June last, Mr. Chase applied his truss, which retained the bowel constantly and perfectly, and gave much less pain than the others had done. He says he suffered very little inconvenience from it; indeed it now sits so easily, that he hardly knows when it is on. It is now three months

since its first application, he only wears it when using violent exercise, as in gunning. Last week, while gunning, he forgot to apply it, he jumped over fences fearlessly, without any descent being produced. Coughing appears to give to the finger placed over the hernial orifice a very slight impulse. The skin over this spot bears marks of pressure. It is discoloured, hard, and drawn backward, and slightly upwards, as if the soft parts beneath had been absorbed, or as if they were adhering closely to the parts beneath; and this appearance presents a striking contrast to the corresponding parts on the opposite side.

Besides the cases just detailed, your committee, or particular members of it, have been presented with several others, at different times, which were illustrative of particular points of interest with regard to the action of the several blocks, but which did not appear to require a regular report during the present session. Some of them are made the subject of the following notes:

NOTE I. *By the Committee.*—Major W——, a gentleman of about 60 years of age, has had for many years a large, direct or ventro-inguinal hernia, with an orifice of very considerable size. The hernia has given great distress, disabling him from business, and sometimes confining him to his bed. The patient, before applying to Mr. Chase, had worn a variety of trusses “with little or no benefit,” to use his own language. “For upwards of twelve weeks past it (the hernia) has been uniformly retained by Mr. Chase’s inguinal pad.” He can now walk the room with the truss off, and without producing any appearance of the hernia; which could have been scarcely possible, even by accident, before the application of this block. With the instrument applied, he is able to “walk a considerable distance with comparative ease and firmness.” Neither the patient nor his surgeon have relinquished their hope of a radical cure in this very unpromising case, and the committee are unwilling at present, to express any opinion on the probability of such an event.

NOTE II. *From notes by Dr. Gerhard and the Committee.*—Mr. P——, at the Pennsylvania Hospital, who had worn Hood’s truss with an inguinal block for some time, and who is said to have been considered radically cured by Dr. Hood and Dr. Bodder, had a recurrence of the rupture after the close of their treatment. In October last, while using Mr. Chase’s truss, after the relapse, he was presented before the committee by this gentleman, to rebut the charge that his blocks were incapable of producing sufficient irritation to secure adhesion in the parts beneath; and also to show that the most severe inflammation which could be produced by the instrument without gross mismanagement, was not productive of danger to the peritoneum. At the time of the examination, all the parts covered by the block were more or less excoriated, and in a high state of inflammation, so that one of the committee thought there was danger of the formation of an abscess in the part. The patient did not complain of any abdominal symptoms, nor of very great pain from the pressure. The force of the instrument was afterwards diminished, and the inflammation soon subsided. The committee has seen several other instances of excoriation from the action of different blocks, but none in which serious inconvenience was produced by this cause.

NOTE III.—Mr. G——, a patient with direct inguinal hernia of the left side, was examined in October last by the chairman of the committee. The orifice was not

very large. He had worn Hood's parabolic ventro-inguinal block, for about four months. According to the statement of the patient, the hernia descended occasionally during the first two weeks at farthest: since which it had been uniformly retained. The evidences of pressure on the rout of the inguinal canal were faint, but there were considerable marks of irritation above that part. The truss was re-adjusted and continued.

NOTE IV.—A man of middle age, with inguinal hernia, was examined by the chairman, about the end of October last. He had one of Hood's original blocks in action at the time, and stated that he had worn it for a considerable time. The direction of the shoulder of the block was nearly perpendicular, and, in the opinion of the examiner, it was too near the mesial line of the body to act upon the upper end of the inguinal canal. It is not recollected by whom the instrument was applied, but, according to the statement of the patient, it had always retained the bowel. It should be borne in mind, however, that it is difficult to detect a small protrusion of intestine, confined to the upper end of the canal. The truss was removed by Mr. Chase's order, the patient being then about placing himself under his care; and so great was the absorption of the subcutaneous matter, and the integuments, that the skin was brought into apparent contact with the tendons beneath, and it is the opinion of the examiner that, had the pressure been injudiciously continued, the integrity of the tendons themselves would have been threatened. The depression thus occasioned was greatest at the prominent extremity of the shoulder of the block, and continued—gradually becoming less marked—for about two-thirds of its length upwards. The depression was very narrow, and the parts about the most prominent line of the block were alone imbedded in it. Around the edges of the block there was some swelling, apparently produced by a deposit of some kind in the subcutaneous cellular tissue. The patient has not since been seen. This note is drawn out from memory.

NOTE V.—A patient, with inguinal hernia, was recently presented before the chairman. He stated that he had worn a truss with one of the wooden blocks, until it had produced a degree of absorption described as equal in extent to that mentioned in the preceding note. He had then slackened the instrument, and finally relinquished its use for some time. At the time of the examination, the parts which had been compressed, had resumed their usual level and aspect. The adipose matter had been redeposited in the subcutaneous cellular tissue, and no obvious induration about the canal or the rings could be detected.

This note is introduced to show that adhesions or indurations are not the invariable result of the action of solid pads. The committee has seen, as yet, *no conclusive evidence that they are ever so produced*. This note is also drawn up from memory.

NOTE VI.—Within a few days, the chairman of the committee was called in consultation with a medical gentleman from the country, to see a lady labouring under a small hernia, believed to be femoral, but its precise character could not be positively determined, owing to the sex and embonpoint of the subject. The edge of Ponpart's ligament could not be distinctly felt, and the case may possibly prove one of direct ventro-inguinal hernia. When reduced, the rupture always returned, if the patient rose from her couch. Chase's truss, with a small femoral block, was applied by the chairman of the committee, and during various efforts to test the security of the parts, the retention appeared perfect. It is very improbable that any soft pad of similar dimensions could have produced such security. The patient left the city almost immediately, and her physician has not made any further communication on the subject.

Other cases of less interest have been presented, but with these cases and notes the committee will close the statement of the evidence before them.

6. The committee are decided in the opinion, that the retentive power of solid blocks exceeds, *cæteris paribus*, by considerable difference, that of pads composed of softer materials. If there could be any exception taken to this rule, it would be in favour of pads formed of very firm but highly elastic materials; but the only substance of the latter character, now employed in the construction of truss-pads, is the gum elastic, and against the direct application of caoutchouc to the skin, there are strong physiological objections. Moreover, the committee is by no means prepared to advocate the superiority of elastic pads, in the present state of their knowledge. Whatever they may gain in facility of application, they lose in certainty of action. The great excellence of the solid truss-block is its perfect precision, and if required to adapt itself to changes of position in the part to which it is applied, it can be enabled so to do by the elasticity of the spring of the truss.

Two circumstances should be stated in this place:—the incompressibility of very firm pads and hard blocks, renders it of the utmost importance that their form should be accurately adapted to the particular parts on which they are designed to act, and that they should be carefully placed and secured in correct relation with those parts. Carelessness in either of these respects would incur dangers, grave in just proportion to the power and usefulness of the apparatus. Hence considerable anatomical and surgical skill are requisite, both in the contrivance and the application of trusses armed with such pads or blocks, and they can never be permitted to pass, with safety, out of the hands of surgical scholars and practitioners. Again, the application of such machines, in early infancy, is deemed by the committee both unnecessary and improper.

With regard to other dangers and inconveniences, your committee will merely remark, that the charge of danger of general peritoneal inflammation from the communicated irritation of the blocks, when their application is directed by competent skill, is deemed nugatory, and in opposition both to well-known pathological laws and the direct evidence of experience. The danger of suffering from the production of external inflammation is, in general, slight and unworthy of much thought, and when epidemic tendencies or peculiar states of constitution render the patient liable to diffuse inflammation of the cellular tissue, the danger from the irritation of the blocks, even when employed with force, in order to carry out the theoretical indi-

cation mentioned in the commencement of this report, is certainly not greater than that produced by very trivial and unavoidable accidents, such as slight scratches and abrasions on other parts. But even the correctness of the doctrine which attributes the radical cure to extensive adhesions and callosities, is of very doubtful character, and the necessity of employing the blocks in such a manner as to produce considerable irritation, is by no means decided. The committee, therefore, think that these alleged dangers do not appreciably affect the permanent retentive power of the apparatus.

There is apparently one slight additional security against the descent of the bowel in inguinal and certain other hernia, which is often consecutive upon the use of the hard block for a moderate length of time. This is the rapid absorption of the deposits in the subcutaneous cellular tissue, and sometimes in the dermoid tissue also, which permits the block to act almost immediately upon the tendinous canal, thus effectually closing the neck of the hernial sac, of which it very probably produces the obliteration. It is possible that the temporary security produced by this means, which very slightly opposes the formation of a new sac, has been a cause of deception with regard to certain cases reported as radical cures, but which have been subjected to relapse. Several cases of this character have been before the committee, but they deem it inexpedient to dwell upon the subject farther than to caution the profession generally against hasty conclusions on medical and surgical questions.

In regard to the retentive power of particular blocks, the committee are prepared to express their warm approval of the inguinal block of Mr. Chase, in which, at present, it can suggest no improvement. It also approves of Dr. Hood's ventro-inguinial block, with the parabolic projection, but considers a more perfect instrument, to fulfil the same purposes, both possible and desirable. The same sentence is pronounced upon the femoral block of Mr. Chase; but in the latter case some very important amendments have been made, which appear to meet the views of the committee, and will be verbally commented upon on the close of this report. Their practical application will be made the subject of future investigation.

The committee feel some regret in condemning the mechanical principles upon which the concave ventro-inguinial, the femoral, and the more complex umbilical blocks of Dr. Hood are constructed, the action of the second of these instruments having been proved inefficient in certain particular cases within the knowledge of the Society generally. The evidence with regard to the action of the common inguinal blocks of Mr. Stagner and Dr. Hood, has been already of-

ferred, and of course they fall under the objection of uncertainty of retention. The committee do not deem it necessary to be more explicit in commenting either upon these blocks or upon the drawers, belts, or other apparatus mentioned in the specification of Dr. Hood. They hold themselves prepared to meet, if necessary, any remarks upon these questions during the subsequent debate. With regard to their opinion of the other umbilical blocks, a judgment has been expressed already.

7. With respect to the question of the radical cure of hernia, by means of the best of the instruments which have passed in review, it should be borne in mind, that success in cases of umbilical hernia in young children, is almost general, when methodical bandaging has been judiciously employed. That in other varieties of hernia, affecting subjects of similar ages, success is by no means rare, under the operation of trusses with soft pads; that in children over ten years of age, it becomes rather uncommon; that in youths between the age of puberty and that of twenty years, it becomes rare; and after the latter period, *very rare*. These remarks premised, the committee are of opinion, that the chances of radical cure depend mainly upon the retentive power of the apparatus employed—and their opinion on this subject has been already expressed. It would be wrong to enter upon the calculation of probabilities, without much more extended observation than has yet been possible, but the committee have no hesitation in stating that the action of the several blocks recommended in the last section appears to offer much more prospect of radical cure, even under unfavourable circumstances, than any apparatus previously offered to the public, and which has fallen under their notice after considerable research.

8. In opening the question of the causes of the beneficial results of the apparatus, the committee must be permitted to wander a little from the strict line of direct experience, and to trespass, with due caution, upon the domains of the institutes of surgery. They have been furnished with no valid proof that the apparently radical cure of some of the cases narrated, has resulted from the condensation and general adhesion hypothetically urged as the cause of safety, by the first observers, as mentioned at the commencement of the present report. It is a well known law of the economy, that when the contents of any internal cavity or organ find their way to the surface through an abnormal passage, so long as the discharge continues unchecked, the closure of the orifice, by the efforts of nature, is extremely difficult. The adventitious canal soon becomes lined with a membrane possessing peculiar functions, one of the most remarkable of which is, the secretion of pus. If the flow of foreign matter is not prevented,

this membrane gradually secretes a fluid differing from pus. The secretion first becomes sero-mucous, and finally almost strictly mucous. The character of the membrane becomes continually more and more analogous to the structures with which it is continuous—being cutaneous at its orifice and mucous within—but tegumentary in both situations. At an early period the parts around this new membrane have a strong disposition to deposit the interstitial matter necessary to form granulations—but if constant interruptions of the process prevent the closure of the fistula by such means, the cells of the surrounding cellular tissue soon become the seat of more solid deposits, or are obliterated by adhesion. Still, at almost any period, if the frequent passage of foreign matter be prevented, both the cellular tissue, and according to Delpech of Montpellier, the membrane also, shew a strong disposition to contraction and final obliteration. This disposition ceases not until the new membrane has assumed the principal characters of the mucous tissue, when its own secretions and the proverbial indisposition to adhesion universally displayed throughout this tissue, become in themselves sufficient to perpetuate the fistula, which then remains incurable, except by the destruction of its lining or mucous membrane.

It is also a general law of the economy, that the physiological and pathological changes of the fundamental tissues, are every where the same under the same circumstances; and from these two important laws, your committee deduces the necessary indications to be fulfilled in the radical cure of hernia.

In this disease there is no external communication. The only communication between the hernial sac and more extensive surfaces, is the connexion of the sac with the serous cavity of the peritoneum: and the solid foreign body occasionally occupying the canal—the protruded intestine—is lined, and lies in contact with the same tissue which nature designed for it. The fistula—if we may so term the orifice of the sac and the sac itself—requires no change to adapt it to the character of the surface with which it is placed in continuity. The case is, therefore, simplified by the absence of any adventitious membrane, or change of character in the secretions—but the changes in the surrounding cellular tissue, and in the neighbouring tendinous parts, are similar to those which obtain in fistula proper, when it passes through tendinous parts. The same disposition to contraction in the absence of a distending force, is, therefore, equally probable in hernia; and the history of the normal closure of the tunica vaginalis testis, and of the umbilicus in infancy, tend to strengthen this probability. The only cause of the obstinacy of the affection

appears to arise from the frequent abnormal position of the intestine—except, perhaps, in cases of hernia from arrest of development. In hernia the patient enjoys this vast advantage over the subject of a fistula. The lining membrane of the canal undergoes no very important change of structure, for although the omentum in old ruptures is sometimes so far altered as to become a source of irritation when reduced into the general cavity of the peritoneum, yet the whole history of such cases tends to prove that the serous membrane never loses its peculiar tendency to adhesion under slight irritations.

But the mere adhesion of the serous surfaces of the neck of the sac, and even the regeneration or contraction of the surrounding cellular tissue, would form but a very weak barrier to the progress of a hernia, if the original or accidental deficiency in the muscular or tendinous parietes of the abdomen were suffered to continue, and the process of contraction, like all other processes is, in such parts, very tardy. An opening, therefore, may be kept up for a long time by the occasional presence of a foreign body or a distending force.

These positions will explain the motive of the committee in taking the ground, that the most perfectly retentive apparatus is that which offers the strongest probability of radical cure, and that any considerable irritation produced in the parts by the pressure of a block, may be considered, in the present state of the investigation, of secondary importance. They feel bound to protest against the pretensions to radical cure accomplished in ten, fifteen or twenty days, as asseverated by some, but of which they utterly disbelieve the possibility.

9. The question of novelty is one in which the committee feel but little interest, being convinced that that of utility is of vastly more importance, but it will merely remark, in passing, that the almost endless variety of forms given to truss-pads from time immemorial, and the generality of the directions for forming them, as given by the highest surgical authority, would make it a task as vain as useless to render *suum cuique* in this department of surgery. The blocks of Mr. Chase are, however, mathematical figures, capable of accurate expression, and, if it be thought necessary, the committee will endeavour, under the injunction of the society, to investigate his individual claims. In most of the other cases, they regard the inquiry as nearly hopeless.

If originality on the score of the material used in the construction of the blocks be claimed, the committee can only state its inability to recall any instance of the use of wood as a pad in hernia, occurring under the observation of its members prior to Mr. Stagner's invention, but it has been long familiar with the use of ivory.

10. In conclusion, the committee cannot avoid the expression of their sincere thanks to Mr. Chase, for the manly, open, and ingenuous manner in which he has facilitated their investigations; the frankness with which he has received their suggestions, and the strictly professional manner in which he has thrown open his improvements to the profession at large. That profession owes him its support, and the cause of humanity requires that the usefulness of his instruments should be made known. On their part, the members of your committee will spare no pains to aid his endeavours to bring the mechanical treatment of hernia to the highest perfection possible. They have no hesitation in saying, that, were they individually affected with this terrible disease, they would resort to his method of treatment, with the triple view of securing their comfort, safety, and ultimate chance of recovery.*

(Signed)

REYNELL COATES, M. D.

WM. ASHMEAD, M. D.

ISAAC PARRISH, M. D.

ART. IV. *Report of a Trial for Infanticide, with remarks.* By
CHARLES A. LEE, M. D., New York.

Margaret Crosslan, an unmarried coloured girl, aged 22, was indicted for murdering her infant illegitimate child, and concealing its death, on the 14th of Nov. 1834. Her trial came on during the second week in September, before the Supreme Court of Massachusetts, holden at Lenox, Chief Justice Shaw presiding, assisted by Samuel Putnam and S. L. Wilde, Esqs., Puisne Judges.

The following is the substance of the testimony taken by the coroner, Robert Waterman, 18th Nov. 1834.

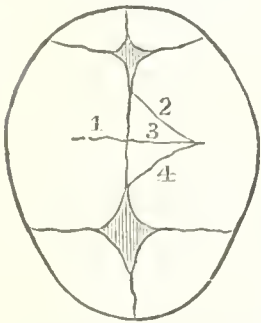
Eleazer Barker, sworn.—Abigail Crosslan has had every appearance of being pregnant for some months past, but last evening I informed my wife, that something more than common was the matter with Abigail, and that I did not believe she would go longer than to-night or to-morrow night. Last night she appeared to be unwell, but denied that she was sick. This morning she went about her usual work, doing the chores, and was out for a considerable time. We went this morning for her mother. She came, and went up stairs to examine the bed where her daughter slept; she came down and told her that she had lost her child. At first she denied, and then

*See American Intelligence for a notice of two new blocks recently devised by Mr. Chase.

confessed it, and said it was no bigger than her fist. We then went out to the barn-yard; we there found the after-birth and a quantity of blood in several places on the ground. The child was soon discovered, and, after I had examined it, I went and informed E. Enrign, Esq.

Mrs. Barker testified, that she had accused Abigail of being pregnant; that she denied it—that on Monday, the day the child was born, she kept about her work as usual, went at night to the barn-yard to milk; that she was gone a little longer than usual; came in and went down cellar after candles; that soon after the witness saw something on the floor, which she called Abigail to mop up, asking her what it was? She replied she did not know. It was afterwards discovered to be blood. The next morning she got up and went about her usual work. Suspecting that she had lost her child, she charged her with it, but Abigail denied it. After some time, she owned it, but said it was no bigger than her fist, and that she had buried it with a stick in the barn-yard. On searching, the child was found behind and partly under the barn, wrapped in a piece of an old bag.

Drs. Oliver Peek and Silas R. Kellogg examined the body, under the direction of the inquest. Owing to the circumstances under which the examination was made, it was not so thorough as ought to be made in such cases. The body was that of a full grown male child, and no external marks of violence appeared, excepting signs of effused fluid under the scalp covering the frontal bones. Blood was found in considerable quantity, partly fluid, and partly coagulated. The pericranium was separated from the bone; the parietal bones were both fractured, the left one in three places, the right in one, in the manner represented in the adjoining cut.



1, 2, 3, 4, fissures extending nearly one-third the diameter of the bone.

The effused blood was principally over the back part of the parietal bones, and the upper portion of the occipital. The chest was externally arched, the lungs collapsed and somewhat spongy. Dr. Peek testified, that the lungs filled the chest; that the injury was not inflicted after death, and that a blow sufficient to cause such injury would destroy life; that it must have been done after the delivery of the child, as the action of the uterus could not fracture the bones; and that the circumstances of the case warranted the belief that it was done by the mother. To the question, by the court, whether the mother might not accidentally have caused the death of the child, by

grasping the head for the purpose of facilitating delivery? it was replied, that he thought not—it was indeed possible, that the bones might be fractured in this way, but if produced in this manner, it would not probably cause so much extravasation of blood. He thought it very difficult for a woman to be delivered standing, though it was possible; that females in labour instinctively seek a situation where they may support themselves and be supported; that is, a reclining posture; that the probability of the child's being born while the mother was standing, was increased in this case, by the circumstance that the labour was short, and that it occurred in a barn-yard; that, therefore, it was possible that the death of the child was occasioned by its falling on its head, upon the frozen ground.

Dr. Kellogg testified to nearly the same effect; he thought, however, that the fractures could hardly have been caused by the mother's grasping the head of the child, as the bones before the union of the sutures would lap upon pressure. At the time the inquest was held, he formed an opinion that it came to its death by a blow inflicted by a stick or some hard substance. In examining the lungs, a portion only was cut off from each, an inch and a half or so in diameter. In the first experiment, the temperature of the water was about 80 degrees of Fahrenheit; in the next it was of the ordinary temperature of the atmosphere. The lung floated readily in each; the pieces remained in the water three or four minutes. The whole lung was not removed, as they were pressed for time. Did not observe any appearances of blood in the lungs, and did not try whether they would crepitate on pressure. A child may be said to be born alive, when it is furnished with such an organization as to be capable of maintaining an independent existence, when separated from the mother. Could not say that this child was born alive in this sense—thought a woman would naturally, and, under all circumstances, seek a reclining position in labour—the effusion of blood might have been caused by a blow given shortly after death—thought that the presence of arterial blood in the lungs, would furnish a much stronger proof of the child's having breathed than extravasated blood under the scalp.

Dr. C. A. Lee, on behalf of the prisoner, testified that he believed there was no difficulty in a woman's being delivered standing; that he had delivered several in this posture; had often known females seek such a position, resting their hands or arms on a chair placed before them; thought it a very natural and easy position for a strong lusty woman; that some of the older works on midwifery directed women to be delivered supported on crutches; had known cases

where parturition had been effected by a single pain, and so suddenly that the mother had no time to get into a bed, or in a reclining position; that if a woman was suddenly seized with such violent labour pains in the street, or in a situation where the usual conveniences were not to be had, it was most probable she would be delivered standing; that this was probably the fact in the present case, as the fractures were in the very place we should expect to find them, had they resulted from such accident.

Dr. Sellor, of Amherst, also testified to that effect; and Mr. Swan, that his own wife was delivered in the same way. On the cross examination, the medical witnesses for the government testified, that, in such cases, the physician ought to proceed according to the best authorities. The heart should be taken out with the lungs; the large vessels tied; the ductus arteriosus and venosus examined; also, the foramen ovale, the brain, and abdominal viscera; and, particularly, the colour of the lungs, crepitous feel, &c. All the tests should be used in such cases, which are recommended by writers on the subject, and even then there will remain a sufficient degree of uncertainty.

On summing up the case, H. W. Bishop, Esq., on the part of the prisoner, after a happy exordium, in which he adverted to the importance of the case, remarked in substance, that he should confine his observations chiefly to the first count of the indictment, which charged Margaret Crosslan with destroying her infant child; the government here were bound to make out a clear case, they must not talk of probabilities or of circumstantial evidence, the burden of proof rests upon them. As to her pregnancy, that we are willing to concede, but they must prove that this child was born alive, and with organs sufficiently perfect as to support life independently of its mother.

Was this child born alive? The physicians, able and learned as they are, and distinguished in their profession, are still young, and they had not the means at hand of conducting the examination according to the most approved tests. It is very evident that it was not satisfactory to the physicians themselves; and how was it conducted? The books direct that extreme caution should be used in such an investigation. 1st. The general appearance of the body is to be carefully noted, its size, weight, and strength, as also the proportion of the different parts carefully ascertained, whether there are signs of putrefaction, desquamation of the cuticle, ecchymoses, and other marks of violence, and particularly whether the umbilical cord has been ruptured or cut; and if ruptured, whether at the end or in the middle. If there are effusions of blood about the head, it is to

be inquired whether it is probable they were produced by efforts of parturition, or by external violence. It should also be ascertained whether there are any foreign bodies in the mouth or trachea. These and many other particulars are to be ascertained, before proceeding to the dissection, which ought to be pursued in the manner recommended by Beck, Smith, and other writers on medical jurisprudence.

After laying open the cavity of the chest, it should be observed whether the lungs fill the thoracic cavity, or whether they are shrivelled and collapsed, and particularly whether their colour be florid or lightish gray. The position of the diaphragm should then be noticed, whether it be depressed or elevated. The ductus arteriosus and foramen ovale should also be examined, to ascertain whether they are open or closed.

The large vessels are now to be tied, and the heart and lungs taken out together, in order to subject them, in a satisfactory manner, to the hydrostatic test. In this experiment the temperature of the water should be that of the atmosphere, and care should be taken that it contain no gall. After using these precautions, and ascertaining whether the lungs will float, with the heart attached, the large vessels are to be tied, and the heart separated; after trying whether they will then float, they are to be weighed, in order to ascertain their relative weight compared with that of the body. This constitutes what is called the test of Plouquet; it is not the most valuable, but it is one which writers say should not be omitted. Incisions should then be made into the lungs, to see whether the tissue be spongy or compact, healthy or diseased, colourless or florid, whether crepitous on pressure, and the blood vessels injected. These are only a few of the particulars to which the attention of the physician must be directed, in order to form any satisfactory opinion, whether the child respired after birth. In the present case these points were nearly all omitted; nothing was done but to cut off a portion of each lung and throw it into warm water—of course it would swim; the temperature of the water would cause such a rarefaction of the fluids and the air vesicles as to sustain it upon the surface, even though the infant had never breathed. The experiment is, therefore, wholly unsatisfactory. True philosophy is not satisfied with a single experiment. She refutes and changes them in every possible manner, before she deduces those general principles which she is willing to publish to the world. The condition of the pulmonary blood vessels has always been considered a most important indication in such cases. If they are found charged with arterial blood, the surface of the lung presenting red points when cut into, it is very conclusive proof that

the child was born alive; and we have the testimony of the physicians, that this would be a far better test than the extravasations of blood which were found about the head. Yet even this point was neglected in the hurry of the examination.

Again, we are told that there were fractures of the parietal bones, and considerable effusion of blood under the scalp. This being partly fluid and partly coagulated, is supposed to prove that the circulation was going on at the time the injury was received. Yet such appearances have been found where the infant did not survive delivery, and from the contractile force of the uterine pains. Physiologists tell us that the moment the nervous agency was destroyed the circulation ceases, as in cases of death by lightning, and severe blow, &c. If a blow, however, is received sufficient to impair, but not entirely destroy the nervous power, the circulation will go on as usual, as long as life continues. Such extravasations may, moreover, be caused by foetal circulation, without supposing that the child ever breathed. It rests with the government to prove, that this infant was born alive, and capable of supporting an independent existence; i. e. that its nervous, sanguineous, and circulatory systems were sufficiently perfect. Has this been done? But if the child was born alive in this sense, who killed it? Was it destroyed by exposure to cold, falling upon the frozen ground, by a blow from the mother, or by her dashing it to the earth? The government say, it was by one of these particular modes; let them prove it. I know that it is possible the infant might have lost its life by blows inflicted by the mother, but we are not now called on to discuss possibilities, or even probabilities; the government must show that violence has been committed.

As to cases of delivery, when the mother is standing, they may be rare, but they do sometimes happen, as the medical witnesses for the prisoner testify. They may not often occur in genteel practice, and the reason is, that labour is usually more protracted, and the female is directed by her physician to take a reclining position; but in humble life, it is far different. Now, gentlemen, this poor, ignorant girl, was delivered on the night of the 17th of November, on frozen ground, in a barn-yard, during a storm of commingled rain and sleet. It is worthy of remark, that there were no marks upon her clothes, as there must have been had she lain down, and thus been delivered. This is strong evidence that she was delivered standing. The cause of the fractures on the top of the skull, will now be obvious: they were caused by the child's falling suddenly to the frozen ground. In Beck's Medical Jurisprudence, we have an account of a series of experiments performed in a French Hospital, to ascertain from what

height a fall upon the head of a still-born infant, would fracture the skull. In a large majority of cases it was found that a fall from the height of eighteen inches, was sufficient to break the parietal bones; and what is worthy of particular remark, is, that the fractures in these experiments were caused in precisely the same situation in which they were found in the present case. It is then shown that a slight blow, comparatively, will fracture the cranium of a new-born infant. It has been proved that the manure had all been removed from the yard a day or two previous, and that the gravelly soil, rendered compact by long treading, was moreover frozen, thus presenting a surface as hard as the walk before this court-house. But the prisoner is charged with being "wilfully delivered in secret"—but she was not so delivered. It was her wish that it might happen under different circumstances; but imperious necessity forbade. You may be told that she might have gone to the poor-house; but this supposes a knowledge of the law. She could neither read nor write, and knew nothing about the poor-house; she knew that Mr. B. would not have her in his house; she had no home at her drunken father's, and no place to which she could go and find a comfortable asylum."

The conclusion of Mr. Bishop's able argument was occupied in showing that there were sufficient motives for the prisoner's concealing the child, without supposing that she destroyed it and then concealed it, for the purpose of secreting its death.

On the part of the commonwealth, Mr. Austin, the Attorney General, remarked in substance, that he was not about to make a formal speech, but to reason with the jury, and converse with them, as rational men, anxious to come at the truth, whatever it might be. Laws like this, which punish capitally for taking the life of a human being, are of the mildest kind. They tend to the preservation, and not the destruction, of life. But it is better to have no laws, than such as can not be executed. Now, if the doctrine, for which the opposite counsel contend, be true, then it can never be shown in any case that a woman is guilty of infanticide. No direct evidence is to be expected in a case of this kind; for it presupposes that it is done secretly, and we have to rely on circumstantial evidence alone. As a general rule, no direct proof can be furnished; and if such is to be required, then all this legal array is a mere mockery, and you have been called from your homes and firesides for nothing. All you can ask, is, the *best evidence of the kind*. And now, what is the case? It is, that a wanton and lascivious woman was in a condition to have a bastard child, as she had already had one; and she knew very near, if not exactly, the time when she might expect her accouchement.

In the next place she denied her pregnancy—made no provision for the infant, and no attempt to find a suitable place in which she might be delivered. In this situation, when the time came, she went into the barn yard, was delivered by a rapid process of labour, destroyed the child by blows upon its head; wrapped it in an old cloth, hid it under the barn; then returned to the house, said nothing about what had happened, and when charged with losing her child the next morning, she denied it—at length confessed it, but said it was no larger than her fist, and that she had buried it with a stick. Now, all these are circumstances furnishing strong presumptive evidence of guilt, and you are to give them their full weight in forming your verdict. If there is not satisfactory proof that the child was born alive, then the prisoner is to be acquitted; or if born alive, and accidentally fell from her arms, or propelled by the efforts of labour to the earth, then she is not to be declared guilty. Now, it is possible that the child came to its death accidentally, or that the mother destroyed it: you are to decide which. There is nothing, scarcely, but what may be said to be possible. It is absurd to talk of reasonable doubts, when all the evidence is adduced which ought to be expected. As the child was not heard to cry, the opposite counsel tell you we have not the best evidence of life. But there is far better evidence of life than that; walking is better, and talking is better still. But, supposing that the child had cried, it could only have been heard by the mother. But was the child born alive? The opposite counsel have brought a French book here, which I think had better have remained in France, in which the opinion is maintained that a child may breathe, and still not be born alive. It may be technically true, that an infant may be born with such an imperfect organization as not to be able to maintain an independent existence, and thus speedily perish, but such a case would exhibit no marks of violence. But it is contended that a child may be half born and breathe; but from pressure on the cord, or other causes, may be still-born. Gentlemen of the jury, while the child is in the womb, it is a fetus—and when in the world, it is a human being, and entitled to a breathing in God's air. The law knows nor recognises no intermediate stage. This is a horrid doctrine, and, if established, must lead to horrid consequences. If no other good results from the present trial than to place a veto upon such a doctrine, it will prove a lasting benefit. You are to inquire whether there is satisfactory proof that this child breathed, and whether it had the capacity of maintaining life. Here science comes to your aid, and philosophy stretches forth her helping hand. There are eight or ten different modes of ascertaining whether an infant was

born alive. Can you expect that physicians will try all their tests, and keep a coroner's jury all night to go through them all? No! They will take this course:—they will try a sufficient number of experiments to make up an opinion; if not satisfied with one, they will proceed to others. Complete satisfaction is all you ought to ask. A cask cannot be more than full. Now, there are two grand tests: one is called the hydrostatic—the other, the test of Plouquet. After the child has breathed, the lungs become specifically lighter than water; before respiration, they are heavier, and sink. If, then, the lungs be immersed in water, and float, we infer that the child was born alive; and this was the fact in the present case, as proved by the medical witnesses. If the experiment was a fair one, and satisfactory to the physicians, what more do you want? One such experiment is as good as a thousand. But it is objected that warm water was used, and therefore no dependence is to be placed upon the test. There would be some foundation for such an objection, had the temperature of the water been as high as 290° , but the doctor testifies that it was only about 100° , and 80° is said in the books to be the most suitable temperature. It should be recollected, moreover, that the lungs floated in cold water likewise. Now, there may be, and are, exceptions to all rules; and so it is here. Putrefaction or artificial inflation may both cause the lungs to float, but neither of these are contended for.

The test of Plouquet consists in ascertaining the relative weight of the lungs, compared with that of the body, as that of the lungs is increased after the circulation of the blood through them has taken place by the establishment of respiration. But this experiment requires very nicely adjusted scales and the greatest care, and it is one which, in ordinary cases, cannot be performed.

To the objection that a child may breathe when but half born, and then die in this amphibious state, before it is wholly brought into the world, it is hardly necessary to reply, by showing that this could not have taken place in the present case, as it only happens in tedious and protracted cases; and, besides, in such instances the skull surely could not have been fractured, without culpable negligence or manifest design on the part of the mother. Was there a sufficient motive for her to take the life of this infant? There was. It was to get rid of trouble, shame, and suffering. She had already been disgraced by giving birth to a bastard child; she was afraid to be confined at Mr. Barker's; she could not go home to her father's; and she thought if the child was only out of the way, she should get along easily. This was the motive, and it was a malicious one. The blows upon the

head caused its death, as is known by the effusion of blood, which could not have occurred after death. The fact of the concealment of the child, has again and again in our courts been decided as proof to show that the mother was guilty of the murder. In ordinary cases, if a person should die in company with another, would the latter attempt to conceal it? Would a woman hide her child under a barn if it happened to perish during delivery? Should she do so, would it not be a suspicious circumstance?—ought not some satisfactory reason be given for it? Had she not been guilty, would she not unhesitatingly have carried the child into Mr. Barker's, instead of denying its birth and its death? If there is a single point established in morals, it is that guilt and falsehood go together. Innocence never prompts a lie. There, then, is conclusive evidence that she was criminal. But it is objected that the child may have fallen to the ground, and thus fractured its skull and caused its death. Reference has been made to experiments performed in a French hospital, where still-born infants were suspended by the heels, and thus let fall head foremost upon a hard floor, fracturing their skulls. From these you are asked to draw the original inference, that an American woman may go into a barn yard, stand up, and with one mighty throe give birth to a child; that that child may respire, have the blood sent through its lungs, and all the phenomena of life be fully developed in its passage from the mother to the ground! There is not a case on record where a woman voluntarily assumed a standing position to be delivered. Those French physicians who performed these experiments do not say that women are ever delivered standing. Animals are guided by instinct to lie down when in labour, and woman also, in the extremity of pain, is prompted to take the same posture. But it is contended that this infant breathed, and then was propelled by another pain to the earth. If so, this must have been a very remarkable birth. It had to fall but eighteen inches, and if it stopped short half way to breathe, it could not have fallen even thus far, and certainly not sufficiently rapid as to cause its death. Besides, how are you to account for the extravasation of arterial blood? (Here Judge Shaw observed, that the physicians only testified that the extravasation, in their opinion, showed the existence of fœtal life at the time of the accident, and not that respiration was established.) After some further remarks on this point, Mr. Austin* concluded his argument, by saying that the case derived much of its importance from the probability of its being quoted as a precedent, and as influenc-

*I regret that I am unable to present but a meagre sketch of Messrs. Bishop and Austin's remarks, not being accustomed to the business of reporting. I can-

ing future decisions. After an able review of the testimony, by Judge Shaw, the Jury retired, and the next morning brought in a verdict of *Not Guilty*.

Remarks.—There are several interesting inquiries suggested by the history of this case, satisfactory answers to which cannot but be useful to the medical jurist. And first—is there sufficient evidence that this infant was born alive? As to the external conformation of the chest, it was testified in general terms “to be arched.” This surely can have no weight as evidence of respiration. The shape of the chest is subject to great irregularities, both in adults as well as in new-born children, and therefore no direct conclusion can be drawn from it. The same may also be observed with respect to the size of the lungs. By one of the medical witnesses it was testified that they were collapsed; by another that they filled the cavity of the chest. Now the lungs of still-born children differ in this respect; some occupying nearly the whole, others but a part of the thoracic cavity. Even after the child has lived for some time, the lungs may appear so much compressed, that were we to judge from this circumstance alone, we should probably infer that respiration had never taken place. Schmidt has recorded cases of this kind. The position of the diaphragm was not observed, but we do not consider it of much importance. We would say the same in relation to the closure of the foramen ovale and ductus arteriosus; for as these changes do not take place at the moment of birth, and frequently not until after several days, or even weeks, nothing conclusive can be determined from them.

It must also, we think, be conceded, that the hydrostatic test, when employed with strict regard to the rules laid down by Beck, Smith, Ryan, and others, does not furnish such conclusive evidence that the child was born alive, that without other corroborative proof, we may positively affirm that such was the fact. Even when all due precautions are observed, and certain exceptions allowed, the floating of the lungs in water, in the opinion of those who think most favourably of this test, affords only presumptive evidence that the child outlived delivery. But even this presumption ought to be received with many grains of allowance. It is a well known fact, that

not, however, refrain from expressing the high satisfaction and pleasure I received from the consummate ability and learning which they displayed in arguing the case, and the intimate acquaintance they exhibited with every point connected with the subject.

the lungs may sink though the child survived its birth, for a child may live a short time without breathing, when the trachea is obstructed by mucus and the pulsation in the cord continues. Moreover, an infant may be born in such a state of feebleness, either from a deficiency of nourishment, imperfect organization, delay in delivery, pressure on the umbilical cord, &c., that if it respire at all, it will be but feebly, and the lungs will be so partially inflated as not to cause them to float when subjected to the hydrostatic test. The law of Scotland declares, that a child cannot be said to be born alive, unless it has breathed, and in suits under the law of Tenant by Courtesy, it has been decided again and again, that *crying* is the only admissible evidence of the child's having been born alive. By the English laws, however, the slightest voluntary movements constitute legal evidence of life. I have delivered two or three children that moved after birth, but never respired, except by artificial inflation, and such cases, I suppose, are not unfrequent. How long an infant may remain in a state of asphyxia, and be resuscitated, is not known with any degree of certainty; but probably it does not differ materially from that of adult age.—Again, the lungs may sink, though the child respired after delivery. Many cases of this kind are on record. Bernt has recorded three instances of the kind: in one, a seven months' child, that lived two hours, the lungs sank when entire, and only a few pieces, of a scarlet hue, floated. In another, which was born at the full time and lived a day, they also sank when entire, and only a few small fragments floated; and in a third, a seven months' child, which lived two hours, the lungs were ten grains heavier than water, and every portion of them sank. In the winter of 1832, I examined the lungs of an infant which had breathed for some time, and which sank in the water like lead. On examination, I found the air-cells filled with coagulable lymph, giving to them a fleshy, granulated appearance. Morgagni, in his *Morbid Anatomy*, remarks, that "the lungs of new-born infants may have a morbid gravity, owing to scirrhusity or inflammation, or they may be so affected with inflation, that if they were the lungs of an adult, they could not float—a circumstance which most anatomists, as well as myself, have perceived." (Vol. ii. p. 579.)

In those cases where the lungs sink from scirrhus, sanguineous engorgement or tubercles, the cause is so readily detected, that, if proper attention be given, there is but little liability of error.

Another objection to the hydrostatic test, is, that the child may breathe before delivery, and yet be still-born. I have met with cases of this kind in my own practice. Dr. Scott, in the *Ed. Med. and*

Surgical Journal, vol. xxvi. p. 68, has recorded an interesting case of this nature. Bernt, in his Historical Review, states that he had himself met with eight cases in which the child cried when the head was born, and the rest of the body remained in the passages; and two others, in which, after delivery by the feet, the lungs floated, though neither emphysematous nor decayed. Osiadel relates an instance, in which delivery was effected by turning, and the child was born quite dead, yet the lungs had a bright red colour, and floated in whole and in fragments, though neither emphysematous, putrid, nor artificially inflated. Bernt gives a case where, in a child delivered by turning and destruction of the head, the lungs were 150 grs. lighter than their own volume of water, and every part floated. In three other cases, where the foetus was extracted from the uterus after the mother's death, portions of the lung floated.* M. Baudelocque has communicated to the French Academy of Sciences a case of labour, in which the waters being evacuated, the face of the child presepated to the neck of the uterus, and the child uttered cries as strong as if it had been delivered. It is doubtless true, that uterine, and vaginal, and extra-uterine respiration are of comparatively rare occurrence; but as they do sometimes take place, and the child is afterwards still-born, the mere floating of the lungs in water, ought not to be considered as furnishing positive proof that the child was born alive, even when the exceptions already noticed are allowed. Accordingly, in England and Germany the hydrostatic test is no longer considered conclusive. It will not be admitted in the British courts, and ought not to be in ours. There always must remain a reasonable doubt, and the accused is entitled to that doubt. If, therefore, this test, when employed with all possible accuracy and according to the most approved rules, is unsatisfactory, it should not for a moment be considered as possessing any weight, when imperfectly performed, and without the observance of the cautions usually prescribed. The position, therefore, taken by the Attorney General, that a single experiment, sufficient to satisfy the minds of the physicians engaged in the examination, is as good as a thousand, we suppose must be regarded only as a sample of special pleading, to which our brethren of the law are obliged sometimes to resort, even against their better judgment, and is not to be viewed in the light of a serious argument, which deserves a refutation. Supposing that this child was born alive, was it destroyed by its mother? The circumstances which have been related; the denial of pregnancy and of delivery; her state-

*American Journal of the Medical Sciences, vol. viii. p. 248.

ment that the child was no bigger than her fist, and that she had buried it with a stick; the finding the infant with its skull fractured, and secreted under the barn; all these furnish strong presumptive evidence of the mother's guilt. On the other hand, she was very ignorant, and could not in the hurry and agitation of delivery be supposed to have reflected deliberately on the precise spot where the infliction of a fatal blow might pass as the result of accident; the labour was very rapid, and the ground hard and frozen, and her own story was, that her pains came on rapidly while milking, and, as she rose up, the child fell and struck its head on the edge of the pail, and lived but a few minutes. As the counsel for the government undertook to prove that a woman could not be delivered standing, and that there is no instance of the kind recorded in the books, it may not be amiss to remark, that, besides the cases which we related as having occurred in our own practice, we have since heard of numerous cases in the practice of others. We can name among several others, Drs. Sabine of Williamstown, Thomas, of Hancock, and Beck, of this city. In one instance related to us by Dr. Thomas, the same woman was delivered five times in a standing position. Dr. Ryan states in his *Med. Jurisprudence*, p. 142, that "the infant may be expelled suddenly, and, falling on the floor or any hard substance, the skull may be fractured and the cord torn." Such cases are recorded by Hamilton, Chaussier, Henke, Klein, Pasquier, Meirieu, &c. Dr. Ryan states that he had met with three such instances. Dr. Klein, of Stutgard, as a member of the Superior Council of Health, caused a circular to be addressed to the accoucheurs of the kingdom of Wirtemberg, requesting reports of the cases of the sudden expulsion of the fœtus, which might have been observed by them. Returns were made of 183 cases; of these, 153 children were expelled while the mothers were in the upright posture, 22 while sitting, and six when on the knees; 21 happened at the first labour of the whole number: it is stated that not one child died, no fracture of the bones took place, nor any severe contusion; two only suffered temporary insensibility, and one an external wound, with ecchymoses on the right parietal bone.* It would appear from this statement, that injury to the child is an extremely rare occurrence in cases of sudden delivery; but it is highly probable that a large proportion of these cases occurred under the observation of the physicians who made the reports, and serious injury to the child was prevented by their interference. It is worthy of notice, that in the present case there were no marks of violence,

*Proof sheet of new edition of Beck's Medical Jurisprudence.

except on the vertex, which could scarcely be expected where life had been taken by design. An important circumstance to be noticed in such cases, is the part of the umbilical cord which is ruptured, whether at the placenta or umbilicus, and also whether it presents appearances of laceration. If ruptured by the falling of the child, it would unquestionably be at the extremity, and not in the middle. It did not appear from the testimony, where the cord was divided, in the above case. We then come to the conclusion, that, if born alive, this child probably came to its end by accidentally falling upon its head.*

ART. V. *Cases with Remarks.* By ASHBEL SMITH, M. D. of Salisbury, N. C.

CASE I. *Imperforate Anus.—Recto-Vaginal Canal.—Operation.*—This was the case of a female infant. The accouchement of the mother was at the end of the ordinary period, of her first child, easy, and presenting nothing worthy of record. The child was of the usual size, healthy, and exhibited no malformation, except the one

*A trial for infanticide, under circumstances somewhat similar to the above, occurred in this city before Judge Woodworth, in 1819. Mary Gardner was indicted for murdering her infant child, which was found soon after birth, wrapped up in rags, and concealed in an old chest. The child was living when found, but died after a few hours. There were marks of violence on its head and neck, and three fractures on the centre of one of the parietal bones, diverging in a radiated manner, and considerable extravasated blood near the coronal suture. Dr. Bliss testified that great violence had been committed, such as would follow a blow from a poker, and that in his opinion it could not have resulted from any accident at birth, as a fall, &c. It was argued that there was no evidence of actual violence on the part of the mother, that the appearances might have resulted from accident, and notwithstanding the opinion of the physician, it would be wrong to draw the inference that she murdered her child, as the fact of concealment might be fairly attributed to a motive consistent with her innocence. Verdict, *Not Guilty*. There is no statute law against infanticide in this state, but such cases are decided by the principles of common law, and accessory circumstances are only considered as proving the intent. There must be actual, *not presumptive* proof that the child was born alive. The legal presumption is, that the child was born dead, and the law does not, as in England, throw the burden of proof upon the mother. She is not required to prove that it was born dead, but the government must show that it was born alive. This we believe to be placing the mother on the only just ground. The same evidence ought to be required in cases of infanticide, as necessary to convict in cases of homicide.

which I am about to describe. Some time after its birth, it was discovered that an anus was wanting, and that the excrements were voided through the vagina. The patient continued to void her feces, in this way, till she was four months old, lacking five or six days, when an operation for artificial anus was performed.

At the time of the operation, July 7, 1834, the general health of the little patient was good, unless we except a somewhat costive habit. It had been raised partly by the bottle, in consequence of a deficient secretion of its mother's breasts; but the derangement of its health was not greater than almost invariably accompanies imperfect nourishment, in the way instituted by nature. The genital organs, on careful examination, did not present *externally* any thing remarkable or anormal. The clitoris, the labia, the fourchette, the meatus urinarius, were of the usual size and well formed. The hymen existed, but was small. Whether the os tincæ, and of course the womb, existed, I could not conveniently discover. The rectum terminated in the posterior and upper portion of the vagina. The perineum offered no trace of anus, except it were that the place it should have occupied was thought to be marked by a very slight brownish discoloration.

The operation was performed in the usual way. Assisted by my friend Dr. E. R. Gibson, I made an incision in the place commonly occupied by the anus, and continued it along the direction of the coccyx until I arrived at the rectum. The depth of this incision was from 9 to 12 lines. The rectum was thus opened to the extent of two-thirds or three-fourths of an inch, and some fecal matter was discharged through the incision. A transverse incision was made, and a tent smeared with sweet oil, was placed in the wound to keep it open. No untoward symptom succeeded the operation; the inflammation was moderate, and did not extend beyond the wound, nor in any degree complicate the general health.

About seven months after the operation, Feb. 1835, I again saw the patient. The artificial anus was perfectly healed, and would then easily admit an urethral bougie of the largest size, being of less dimensions than the original incision, in consequence, as is probable, of the difficulty in maintaining the tent in its place. The tent had been for a long time disused, and the artificial anus showed no disposition to contract farther. Its parietes were covered with a smooth and apparently organized membrane. The feces were discharged partly through the recto-vaginal canal. It was intended to enlarge at some future time, the artificial anus, but the patient died of an acute disease some weeks subsequently to the last date, or more than

eight months after the operation. No cadaveric examination, I understand, was made.

Of the final success of operations in cases like the foregoing, where no other malformation exists, I can entertain no doubt. What arrangement of the muscular fibres of the rectum existed in the present case, I will not attempt to conjecture. The artificial anus appeared to be under the control of a sphincter, for the feces did not come away in a regular stillicidium, but were discharged at intervals. Nor did the recto-vaginal canal, or vulva, serve as a receptacle. When I performed the operation, this canal was quite empty, while the rectum proper contained a considerable quantity of fecal matter, which was discharged through the artificial opening. I think, too, that the recto-vaginal aperture, in case it should remain open and occasion inconvenience, might be closed with the aid of a speculum and other appropriate instruments, when a patient should attain sufficient size. The case related by Ricord, of the Hospital du Midi, of a woman aged 22 years, in whom this malformation existed, and who had been subjected to no operation, is in this and some other points of view, one of the most interesting on record:—it confirms the opinion of Sabatier, that this malformation is not necessarily fatal. A great obstacle to the success of this operation is, the difficulty in preventing the reunion of the new anus; though, as far as an opinion may be formed from a single case, I think it has been overrated by Benjamin Bell, Miller, and others—and old Dionis, to whom a case requiring a deep incision occurred, treats this difficulty slightly.

CASE II. *Fungus of the Urethra—Symptoms counterfeiting those of Stone in the Bladder—Operation—Complete relief.*—Dec. 15, 1834. Mrs. ————, aged 48 years, of a good constitution, middle stature, rather spare habit, brunette complexion, chestnut hair, brown eyes. She has been married about 25 years; was at that time in good health, and became pregnant shortly thereafter. She aborted about the 6th or 7th month, with little or no pains, except quite moderate labour-pains. She has since had a single child. Between her first and last pregnancy—an interval of several months—she for the first time, had occasional paroxysms of severe pain, which was referred to the genito-urinary organs, without her being able to distinguish which of these systems was primarily affected. The paroxysms commonly were but of a few hours' duration. About this time she discovered a small sessile body, of a bright red colour, situated at the extremity of the urethra; to this she attributed so little importance, that she was unaware of its being an anormal growth. The pains gradually increased in severity, duration, and frequency

of recurrence, for several years. She then had an exemption for some years, under the use of a medicine not known, but conjectured to be an animal oil. Her complaint afterwards returned with increasing severity, till her life had but few intervals of ease, between paroxysms of long and extreme suffering. The small tumour, formerly sessile, she at length discovered to be attached by a shorter pedicle. Paroxysms of intense suffering were occasioned by slight causes. Mental agitation, fatigue, brisk purgatives, the menstrual period, and the ritus connubialis certainly produced them. She was harassed with hæmorrhoids, and a paroxysm of these or of the urethral affection, for the most part, mutually brought on each other. Latterly the hæmorrhoidal affection has ceased to trouble her. Her urine on standing, deposited a copious brick-dust sediment. She has had occasionally severe pains in the lumbar region; but no connexion between them and her permanent affection was supposed to exist. No pain can be recollected referable to the ureters, nor any extending down the inside of the thighs. Riding in a carriage did not bring on nor aggravate a paroxysm. The pains were at first alleviated by a free use of gum Arabic water, by balsam of copaiva, the hip bath, &c. Subsequently she made frequent use of calcined magnesia, and latterly she has employed the same medicine in union with the sulphate of magnesia and wine of Colchicum, according to Sir C. Scudamore's formula. From magnesia in these ways, she has derived the most sensible relief. Anodynes, chiefly opium, she has resorted to, to mitigate present agony. S. S. nitre afforded her no alleviation.

The regularity of her menstruation, the copious lateritious sediment of the urine, and the relief afforded by the medicines mentioned above, decided me in the opinion, that the urinary organs were primarily affected. Though from the painfulness of her menstrual periods, and the location of her sufferings, the patient hesitated between fixing on the genital or urinary organs. And so little importance did she attach to the small fungous tumour, that until recently she never even mentioned it; and then in such a way that its exact situation was not suspected. I halted between the suspicions of a calculus, or a fungus or polypous excrescence within the bladder. Her delicacy shrunk from an examination with the sound; till prostrate on a bed of torture hardly intermitted, her health wasted, and life ebbing gradually under the pain, the patient requested me to repair with every instrument necessary for any operation. An examination with the sound *sine visu* taught nothing. An ocular inspection discovered a fungus of the size of a large pea, of a strawberry red colour, attached by a short pedicle to the urethra near its outer

extremity. It was seized with a pair of forceps, and cut off. A few drops of blood followed.

Oct. 1835.—The relief afforded by the removal of this little fungous tumour was complete. Ten months have since elapsed, and the patient has not felt the slightest return of the pain to which she had been more or less subject for upwards of twenty years; which, during the latter portion of this period, confined the patient a large share of her time to the bed, and was rapidly wearing out the life which its torture had rendered a burden.

Some will doubtless be of opinion, that I have detailed the symptoms of this case with more minuteness than so insignificant an operation merits. Perhaps I have; but I have not known a similar train of symptoms produced by diseases of the urethra, except such as occupy its upper portion, or the neck of the bladder;—nor have I been able to find in the treatises on surgical diseases, cases like the one I have related, though it is possible there may be such, which have escaped my research. I do indeed find plenty of fungi and polypi producing symptoms counterfeiting the stone, from Fabricius Hildanus and Morgagni down to the present time. But then these excrescences were situated in the bladder, or near its neck, and are rarely the subject of an operation. And perhaps greater care in examining the cases of severe irritation of the female genito urinary organs, which occur to almost every practitioner, may now and then discover some small and easily removable local cause of the irritation, and thus a life of torture be converted into one of enjoyment. To a physician it might be interesting to inquire what influence the painfulness of the marital rite exerted in preventing conception in an individual otherwise healthy and of an admirably balanced system.

CASE III. *Fracture and depression of Cranium. Comatose state for 20 days, during which time paroxysms of a quartan intermittent regularly occurred.—Permanent impairment of memory.*—I am aware that the following case presents nothing novel, in a surgical point of view. I have sent it to you solely on account of one circumstance mentioned in the caption, viz: that all the phenomena of a regular quartan uniformly occurred at the proper intervals, without appearing to influence or be interrupted by the profound stupor in which the patient was lying.

A—— K——, aged 17 years, of fair complexion, light hair and eyes, and moderately robust, had been labouring under a quartan intermittent for some time previously to April 5, 1834. On this day he had his skull broken by the falling of the limb of a tree. Three hours after this accident, I saw him. He was then speechless, mo-

tionless, and in a profound stupor. His pulse was feeble and slow—his skin cool and dry. A large ecchymosis was formed beneath the upper and front part of the hairy scalp, principally on the left side of the median line; the left eyelid was tinged with extravasated blood. Through the ecchymosis was felt an extensive fracture of the bone crossing the left portion of the coronal and the anterior end of the sagittal sutures. A single incision gave free exit to a quantity of blood, showed the pericranium extensively detached from the cranium, and exposed a depression of the anterior edge of the fracture below the inner table of its posterior edge, and the fractured portions were sufficiently separated to admit readily the elevator. The depression was elevated accordingly, without any destruction of bone. He manifested no sensation from the cutting, nor any relief from the flow of blood, on the elevation of the bone. He remained perfectly insensible to every thing—swallowed only fluids, and these with extreme difficulty, in small quantities, and unconsciously. His pulse rose in the course of an hour or two, when about $\frac{5}{8}$ vi. of blood were drawn from the arm. A folded linen cloth, wet in brandy and water, was laid over the wound on his head; the compound infusion of senna was given him as he was able to swallow, and laxative enemata were administered. He lay in this comatose state about four days, without noticing anything or uttering a word. His bowels were then moved, and he would mutter a few incoherent words when loudly spoken to. He continued in this condition till about the 20th day after receiving the injury, when he was first observed to notice occasionally what took place about him. He recovered his health very slowly. Nothing more was done for him, except to give him a very light liquid diet, and the occasional administration of a laxative.

The day on which his skull was fractured, was the one in regular course for his chill and fever. Accordingly, on this day, and on every succeeding third day, he exhibited all the sensible phenomena of a paroxysm of intermittent fever, with very little, if any, interruption by the cerebral oppression. This case presented the most complete and longest temporary suspension of all the visible cerebral functions I ever witnessed. For a long time the patient was but one remove from apoplexy. The intermittent was cured many weeks afterwards, by sulphate of quinine and hydrocyanate of iron. I have related the case for the bearing it seems to have on some exclusive theories of fever. In some cases, the brain can be only a passive participator in the general disturbance; for, as with the case before us, with its functions so completely suspended, and the general symptoms of the paroxysms thereby so little affected, we can hardly sup-

pose the brain an essential agent in the production of the morbid phenomena.

The patient has not the slightest recollection of any thing that took place the day his skull was fractured, and his memory of subsequent events appears permanently impaired, though his general health is perfectly restored. The organs, as located by the phrenologists, chiefly injured, are imitation, marvellousness and ideality.

Salisbury, November, 1835.

ART. VI. *Abortion, with tardy expulsion of an undecomposed fœtus.*
By ISAAC G. PORTER, M. D., of New London, Connecticut.

An article in a late No. of the *Medico-Chirurgical Review*, on the "Signs of Pregnancy," has the following query: "How does atmospheric air get at blood confined within the uterus? We believe there is a medico-legal question now pending—perhaps decided—respecting the putrefaction, or supposed putrefaction, of the dead fœtus in utero. Does the fœtus become decomposed in utero when deprived of life?" The following case, which has occurred within a few months, is in point, and may be interesting both to the medical jurist and to the obstetrical practitioner.

Mrs. ——— had proceeded to the fourth or fifth month of pregnancy, without experiencing any unusual circumstance. The signs of quickening, however, though anxiously expected, did not appear. With this exception, and the occurrence of severe dropsical symptoms, the other signs of pregnancy continued undiminished for another month. At this time the size of the abdomen began gradually to diminish, and at the eighth and ninth months was scarcely more prominent than ordinary. Still, a foreign body could, at times, be perceived through the parietes of the abdomen and uterus. The breasts also were distended, and there were occasional oozings of milk, though after the beginning of the ninth month, there was an evident diminution in the size and fulness of the former, and an almost entire interruption to the flow of the latter. The general health remained perfectly good. At the close of the ordinary period of utero-gestation, without pain, or any uncommon efforts, the distended membranes were found slightly protruding from the vagina—pains resembling cramp succeeded, and subsequently alarming hæmorrhage. Enveloped in the unbroken membranes, was a fœtus apparently of five

months, which, upon delivery, was found free from any marks of decomposition. The placenta, which followed spontaneously, was in a morbid condition, being larger than ordinary, and resembling in form and consistence a sarcomatous tumour. At the usual period after delivery, milk was secreted in large quantity, and recovery was rapid and complete.

It is maintained by most respectable writers on medical jurisprudence, that decomposition and expulsion of the fœtus must speedily follow the extinction of the vital principle. Beck, in discussing the point when life commences, has these words: "The fœtus, previous to quickening, must be either dead or alive. Now, that it is not the former, is most evident, from neither decomposition nor putrefaction having taken place, which would be the inevitable consequence of an extinction of the vital principle. To say that the connexion with the mother prevents this, is wholly untenable—facts are opposed to it." Cases may arise when it is important that an opposite opinion should prevail, especially as it seems founded in truth. To the physician also, consulted as to the existence of pregnancy, a knowledge of cases like the present may be valuable.

According to the principles of chemistry, air, moisture, and a certain range of temperature, are essential to putrefaction. If this be strictly true, we need be in no doubt how to account for the apparent anomaly in the present instance; for so long as the membranes remain entire, atmospheric air can find no entrance to the fœtus in utero. Should we be asked for proof that it will not produce its appropriate effects, acting through the fœtal membranes, in the same manner as venous blood is decarbonized in the lungs, or when exposed in a moistened bladder to a jar of oxygen, we would reply, that it is incumbent on the objector to show the permeability of such membranes to atmospheric air, and would ask in rejoinder, why were not those effects produced in the present instance?

But it may be said, that the elements entering into the chemical composition of the fœtus, may be so arranged as that they shall, when life becomes extinct, mutually attract each other, and thus decomposition be effected without any extrinsic influence. It is granted that this tendency to spontaneous putrefaction exists in certain combinations, and varies with the relative proportion of certain constituents; it being particularly strong whenever oxygen and hydrogen exist in the proportions to form water. But this is far from being true of the elements of gelatine and albumen, proximate principles of which the young of all animals are chiefly composed; and it is

well known how little in their concrete state these articles are disposed to putrefaction.

Two objections to this view of the case may arise. One is, that the foetus was actually expelled, soon after life became extinct, an error having occurred as to the existence of pregnancy: and the other—that, owing to the morbid condition of the placenta, its functions were so much weakened, that although sufficient to prolong vital action in the foetus, yet it was inadequate to its customary nutrition and growth.

In answer to the first, it is sufficient to say, that, supposing the objection well founded, all the legitimate signs of pregnancy existed before the condition had actually occurred, and, during its existence, were constantly diminishing. In reply to the second, it may be said that every appearance of the foetus would contradict such an opinion, it resembling in every respect the description applied by the authorities to one of five months, and confirmed by the writer's experience.

It may be mentioned, as a striking coincidence, that eight cases of abortion have come to the knowledge of the writer, which occurred during the month within which the death of the foetus, in the case detailed, is supposed to have taken place, and all in this immediate neighbourhood. In these cases there was incipient putrefaction at the time the foetus was expelled. The influence of atmospheric changes in producing abortion, has been noticed since the age of Hippocrates, who affirms that “a warm winter, accompanied with rains and south winds, and succeeded by a cold and dry spring, causes abortions very readily in those females who are to be delivered in the spring.” While the unusual severity of the past winter will not enable us fully to confirm these observations, there are, doubtless, peculiar seasons when, from certain unknown causes, the death of the foetus occurs as if by an epidemic.*

New London, Ct., December, 1835.

ART. VII. *Observations on Delirium Tremens.* By J. YOUNG, M. D.

Much as has been written of late on this disease, its nature and treatment, it must be confessed that great contrariety of opinion still exists concerning it. While one author recommends, with all the

*Two cases similar to the above have recently been communicated to the Academy of Medicine by Dr. Vassal; they will be noticed in another department of this No. (See Periscope.)—ED.

confidence warranted by "extensive experience," bleeding to 70, 80, or 100 ounces; another of equal character, and, we would suppose from their situations, of equal experience, entirely forbids the lancet in any case; a third, who tells us that his practice is founded on "extensive experience," informs us that nothing but enormous doses of opium or laudanum can be relied on, and that no harm ever did or ever can result in such cases from the medicine; a fourth as authoritatively forbids such doses as highly dangerous, and assures us that he has seen harm, nay death, result from them; a fifth recommends emetics as the only articles to be depended on as certainly and promptly efficacious; and finally, others, of even higher authority, assure us that they have known persons, apparently improving under a different plan of treatment, killed as suddenly as if they had been "shot through the heart" by the exhibition of an emetic; how then is a person who encounters the disease for the first time to make up his mind to proceed in the case? Frank, Speranza, Clutterbuck, and some others, assure us that the symptoms of the disease in question are produced by an encephalitis—Armstrong and some others, that they are the consequence of congestion of the brain—Blake, that the affection is altogether a nervous one—Staughton, and many others, that it is gastritis; Barkhausen, that "where the limits are to be drawn in these cases between congestion and inflammation, I cannot determine"—Wright, that in one case dissection "revealed universal injection of the vascular series of the encephalon, both in the membranes and medullary body; excess of serosity over the surface of the brain and between the tunics; no sanguineous extravasation. In the stomach, fine red injection around both orifices; florid patches in the mucus tissue, no lesions elsewhere. In the *second case*, the state of the encephalon and stomach exhibited something of engorgement and phlogosis, but the marks of congestion in the brain and irritation in the stomach were sensibly less than in the first subject. The *small intestine was much inflated in this case*, and in one part, the jejunum, the coats of the bowel for eight inches, were loaded by extravasated blood, (ecchymosis.) The *third subject* betrayed no other pathological phenomena than a very loaded state of the sinuses of the brain and the veins of the cerebellum. The medullary substance of the latter was of a very distinct pink colour throughout." Under all this contradictory authority, how is he who can bring only information acquired by reading to his aid, to act in the management of a case of delirium tremens? If he believes with Clutterbuck and others, that the disease consists in encephalitis, he might be led to adopt the practice of Potter, and bleed very largely; if so, nine times out of ten, if not

oftener, he will be mortified to find his efforts unsuccessful. If he adopts the ideas of Armstrong, and treats it as congestion of the brain, by small general bleeding in the early stage, or by local bleeding by leeches or cups, light regimen, blisters if necessary, &c. &c., he may find that his practice will be more successful, but he will frequently fail to save his patients. In short, let him adopt what *exclusive view* of it he may—let him pursue uniformly the same routine of treatment, without regard to any thing but the *name of the disease*, and he will often be obliged to mourn over his blighted hopes of success, and to distrust the efficacy of his art in the treatment of this, as well as almost every other disease he may be called to combat, if he proceeds on similar principles. The very difference of opinion that exists among the many eminent men who have investigated and written on this disease, may be urged as an argument to prove that no one remedy, or class of remedies, can be relied on in every case; in fact the cases themselves vary. Thus, in the three fatal cases published by Dr. H. Wright, of the Baltimore Alms-house, in one there was found encephalitis, meningitis, and serous effusions in the brain, with gastritis, and “no lesions elsewhere;” in the next case, all the marks of disease in the stomach and brain were “sensibly less” than in the first case; but here there was inflation of the intestine, and extravasation of blood in its coats;—and the third case “betrayed no other pathological phenomena than a very loaded state of the sinuses of the brain, and the veins of the cerebellum,” &c.; showing us, that those who contend for the affection consisting in meningitis, and encephalitis and gastritis, and enteritis—and others who contend for neither, may all be right sometimes. The advocates of the different theories may find, too, in dissections which have been made in the Philadelphia Alms-house, particular cases to sustain their own peculiar views of the subject, and say each of them, (in effect at least,) every disease that does not come up to the description that I give you of delirium tremens, you must consider as not a pure case of the disease, but a complication, and you may treat that as you please; but the disease I tell you about, you must treat exactly as I do, else you cannot cure it. This presents itself to my mind too much in the light of the theory of the Thomsonians. All *dis-ease*, say they, is not *ease*, hence *dis-ease* is a unit, because it is not ease, and *one set of remedies must cure this unit*. If the patient is not very sick, you may, say they, begin with the less powerful medicine; but if the patient is bad, you must pour in the No. 6, steam, &c. &c., as hard as you can, from the first. So it appears from some writers on the disease in question, you must, if the case is mild, give half a grain, or a

grain, of opium, as often as necessary, till you put him to sleep;—if he is rather worse, you must give rather more opium, and continue it till he sleeps, or dies; but if he is very bad, raving terribly, you must apply the No. 6 at once—you must give 10, 15, or 20 grains every hour or two, according to circumstances, and if, the more opium he takes, the more he raves and the worse he gets, you must fold your arms, and pray to the Lord to have mercy on him, because opium wont save him!!

Now, does such a theory as this, or one which would teach us to administer to this disease as we would to any other, viz: according to the circumstances of the particular case, harmonize most with sound medical philosophy? The time has gone by, and fortunate it is for suffering humanity that it has, when, because a patient is sick with bilious fever, he must be crammed with calomel, emetics, &c.; or, if he has typhus fever, that he must be constantly kept intoxicated with wine or brandy; so neither should he, because he has delirium tremens, be either injudiciously bled to death, or poisoned with opium.

I cannot boast of an extensive experience in the treatment of the affection. Although my neighbourhood is a populous one, and I have been engaged in a tolerably extensive practice for thirteen years, I have only met with twenty-three cases of it, several of which were repetitions in the same patients. I have had the good fortune to lose only one patient, and that not originally one of my own, but a consultation case, in which two other physicians had been in attendance for some days, and in which the opium practice was fully tried. The first case I ever met with, was early in my professional career; I had but lately left the lecture room, and Professor Chapman's warning voice, that the pulse is not always to be taken as a guide, in treating mania á potu, was yet ringing in my ears, when I was called upon to attend a case. The patient was first attacked with an epileptic fit, after a debauch of ten or more days, when the liquor had "turned against him," (and his stomach would no longer retain it, and had not for more than forty-eight hours,) this fit however had left him, and did not return before I arrived; he was then as well, to appearance, as usual, but was very *trembly*; his mind however was not disturbed, and I recommended nothing but a bitter infusion, as common drink, a light diet, &c., and left him, without the idea of delirium succeeding; this was the afternoon of June 20th, 1822. I was sent for next afternoon to see him again, when he was a raving maniac. I learnt that he had not slept any for the past 60 hours; had not drank any spirituous liquor for three days; his hallucination was not peculiar; he was timid and apprehensive; pursued constantly by *black* men, or *black* dogs, &c.

&c. His pulse was full, soft and accelerated; in fact, such a pulse as would, under any other circumstances, have let me bleed *freely*, without hesitation; and, taking all the symptoms together, I felt satisfied, from what I had seen of the effects of opium in other diseases, that opium was not indicated, and it would not induce sleep. I therefore determined on bleeding cautiously before administering this last mentioned drug, and accordingly detracted, by estimate, sixteen ounces; this was done with the finger on the pulse, and as soon as I found a change in it, I closed the orifice. The patient did not faint, though he became pale, and the pulse diminished rapidly in volume and force; he sat on the side of the bed during the operation; I laid him down, fanned him, rubbed his face, temples, nostrils, &c. with vinegar, and he soon began to revive again. I felt alarmed at first at these indications of faintness from the depletion; they, however, soon disappeared, and I ordered him a tea-spoonful of laudanum every hour till he went to sleep. Next morning I found him calm and tranquil; he took only two tea-spoonsful of laudanum until he went asleep, and did not awake till day-light that morning. I ordered him to keep quiet, eat soup and nourishing food, and drink wild-cherry bark tea freely for a few days; to take laudanum again in the evening, as ordered yesterday, if he could not sleep without it; and to send for me if he wanted to see me again. I was not sent for again, and he soon was able to go to work.

Was this a case of delirium tremens? If not, what was it? It was not intoxication, because he had not tasted a drop of liquor for three days before I saw him; and he had drunk, in nine days, previously, thirteen quarts, if his own account can be believed. It was delirium, the consequence of the sudden withdrawal of that excessive stimulus to which the system had been accustomed for nine or more days previously.

A case occurred last summer that I attended. I was standing at my yard gate, when an old *toper* whom I had dismissed from my employ a few days previously came by; he stopped, and commenced saying something to me, when he began to stagger, and fell, and had a severe convulsion; so severe, and so long continued, that I believed he would not revive again—he however did—and walked, with slight assistance, into the house. It being near night, I kept him, lest accident might happen him if he attempted going home. He could not sleep, and next morning he was completely delirious. I had given him twenty grains of opium, in four pills, between dark and 11 o'clock, and I went to bed, leaving him sound asleep, apparently. I soon after heard him talking and raving, and he was completely

crazy next morning. I now bled him twelve ounces, prevailed on him to remain, and try to get some sleep. I gave him one tea-spoonful of laudanum; he staid about the house and yard for about an hour, when he stated that he was sleepy; he laid down, slept till near night, got up rational, and went home. This man told me he had not tasted a drop from the time I dismissed him, four days previously, till he came to me and was attacked with the fit. Hence, he could not have been intoxicated.

About the same time I was called to another man, who had been on a frolic about *four weeks*, but he could drink no longer; "it would not stay down;" while on his frolic he had bitten his thumb so that it ulcerated; and I suspect the coats of the artery must have suffered from the teeth, as in about a week afterwards I was sent for to arrest an arterial hæmorrhage from the thumb; he had lost, before my arrival, certainly *two quarts* of blood, as it was retained in a milk pot; and was as delirious as ever I saw a man. I arrested the hæmorrhage by tying a string tightly around the thumb, and ordered him laudanum, a tea-spoonful every hour till he went to sleep. He could not be prevailed on to take any thing; at length, however, I succeeded in giving him three tea-spoonsful at once,—it had not to be repeated: he went to sleep in half an hour, slept 15 hours, and awoke well. In this case, the delirium was not caused by the hæmorrhage, or loss of blood, because he had been deranged 10 or 12 hours before he, in his raving, tore off the dressing from the thumb, which caused the bleeding.

In commencing this paper, it was not my intention to prescribe any particular method of treatment; but on a subject involving so much contrariety of opinion, one of so much practical importance, and one too, which can only be conclusively settled by the experience of many practitioners, who regard the welfare of their patients as of paramount importance to any particular theory of the disease, to add my mite, by contributing the views by which I have always been influenced in treating this unfortunate class of patients. In the use of the lancet, I have always been guided *by the pulse*, compared with other attending symptoms, and bled whenever I thought the symptoms justified it; bearing in mind, however, the caution received in the lecture room, that "these cases do not bear bleeding so well as many others, and that we must not trust too far to the pulse alone." I never have had reason to regret bleeding, and I never have found it necessary to give doses of opium, which would prove dangerous, were they given in a case of intermitting fever. After bleeding, (when I deemed it necessary and proper,) I next, without thinking of the *name* of the disease,

uniformly prescribe for the circumstances of the case; if the state of the tongue, stomach, &c., seem to indicate an emetic, I puke with ipecac. and tart. ant., combined; or if a cathartic seems preferable, I purge with calomel and rhubarb, afterwards, perhaps, give opium; or, sometimes I apply cups to the epigastrium, or nape of the *neck*, or temples; or, perhaps blisters to one or other of those parts, or to the extremities; sometimes ordering wine, wine-whey, or brandy-toddy, for drink; in fact, proceeding according to the symptoms of the case. Sometimes, as in the three cases noted, I have not found it necessary to do any thing else than to prepare the system, by venesection, for the exhibition of opium, and a small quantity has cured; but, in other cases, it has taken some days to place my patients in a situation to be benefitted by it, and I never have exhibited it, until I got the system in such a state as would justify its use in any other disease, merely because the complaint *was called* delirium tremens.

Practising in the country, it is my lot, not to meet with these old worn out constitutions, consequent to an Alms-house or Hospital practice; notwithstanding this, however, I conceive that the aberration of mind, occasioned by the sudden withdrawal of excessive stimulation by ardent spirits, is essentially the same, whether attacking a person in the city, or in the country; with this difference only, that there are perhaps none, or, at least, very few in the country, whose vital powers are so far reduced by the consequences of "hard drinking," as are very frequently met with in our cities. But must we infer that, because a person has had six, eight, ten, or even more attacks of this affection, and consequently his constitutional or recuperative powers are reduced, by a change wrought in his vital organs, by his long course of intemperate habits, that we are to neglect all the light shed on this affection by morbid anatomy, and prescribe alone for the hallucination of the mind, without regarding any other general local affection that may exist. But say the opium advocates, these are complicated cases! Admit it; but does not some complication exist in nineteen-twentieths, if not even far more, of the old, obstinate cases that exist? To answer this, I need only refer again to the dissections of Dr. Wright, of Baltimore, Dr. Carter, of Philadelphia, and, in fact, a host of others.

To those who are about to enter on the treatment of disease, and have never met with a case of mania á potu, or delirium tremens, I would say, when you are called to a case of it, bear in mind the axiom, that an old drunkard will not bear direct depletion to the same extent as other persons, under what may appear to be very similar circumstances. If you determine on the use of the lancet, keep your

finger on the pulse, and the moment you find its force and fulness diminishing, and its frequency increasing, close the orifice; having done this, under the same view of the state of the system, prescribe exactly as your judgment shall teach you to be proper for the existing state of affairs; but believe it not, when you are told to commence, in all cases, at once with mammoth doses of opium, and that it never did, never will, and never can do harm in this disease. In the hands of Dr. Coates, whose extensive experience, and refined judgment, enables him to discriminate at a glance, exactly the case which consists in pure nervous mobility, or cerebral irritability, opium is the sovereign remedy. But you will find few cases indeed in actual practice of this purely uncomplicated character; and if your acumen enables you to recognise the local affection, and your remedies *can subdue* it, you will cure your patient; but if you lose him, and post mortem examination shall disclose to you the fact, that you treated him for the disease he in reality laboured under, how satisfactory will be the reflection that you did all that human art could do for him, when compared with the mortifying feelings that must result from a different autopsic revelation.

Chester, September 2, 1834.

ART. VIII. *Observations on Cachexia Africana or Dirt-Eating.* By F. W. CRAGIN, M. D., [Communicated by Prof. R. D. MUSSEY.]

This disease, termed also “mal d'estomac” by the French, is common and too often fatal in the West India islands, and that part of South America known under the general name of Guiana. It is now carrying off numbers in the colony of Surinam with as much certainty as phthisis pulmonalis is in the United States, scarcely a single well-confirmed case being cured; nor is it curable by the common mode of treatment there pursued from a mistaken view of the pathology of the disease. No age beyond three or four years at the farthest enjoys an immunity from its ravages.

The first symptoms are ordinarily fever at irregular intervals, succeeded by sluggishness, which, as the disease advances, nearly amounts to insensibility. The face, the upper and lower extremities—in fact the whole external surface is of an unnatural shining fulness and rotundity, yielding in a slight degree to the impression of the end of a finger pressed strongly upon the part, leaving a depression after the

finger is removed; this is especially the case with the feet and ankles, while in other parts no such depression is made; these last approaching in that particular more nearly to the state of elephantiasis than to œdema.

The conjunctina is of a peculiar snowy whiteness, untinged by a particle of red blood, while the eyes participate in the general fulness, making them appear somewhat prominent, and giving to them altogether a sort of unmeaning yet characteristic stare, which, so far as my observation goes, is peculiar to this complaint. The marble paleness of the lips, of the palms of the hands, and of the soles of the feet, indicates an impoverished state of the blood. The diagnosis may be nearly formed from the pallid appearance of the lips, the gums, and the whole membranous lining of the mouth, and from the condition of the tongue, which in health performs its duty with so much alacrity, lying bleached and bloodless, scarcely able to represent the motives of its owner.

The patient evidently suffers from a sense of cold, as is evinced from an inclination to bask in the sun's rays, even in the hottest part of the day.

There is much palpitation and throbbing of the temporal arteries, while the pulse at the wrist are small, frequent and slow; quicker, however, after the slightest exercise, after eating, and on the approach of evening.

The secretions are generally diminished; perspiration is suppressed, the urine is scanty, and there is an apparent total suppression of the bilious secretion; costiveness generally prevails in the commencement of the disease, but in its more advanced stages the alvine discharges are increased in frequency, differing from four to ten or more in four-and-twenty hours, of a thin consistency, and unmixed with bile. In the confirmed and further advanced stages of the disease, a few hours are sufficient after deglutition for the digestion of the food, when it appears in some cases to have undergone a slight, and in other cases, no change whatever in its passage through the alimentary canal. The stools, however, become more watery, dark, and foetid, as the disease draws to a close.

The appearance of blood drawn from the arm is invariably unnatural; it is thin and watery, of a livid purple hue, assuming neither the bright red of arterial, nor the dark red of venous blood; and wanting the consistency of either, it presents that semiturbid appearance which is a concomitant of a gradual but general decay of the powers of life.

The liver or spleen is generally increased in size, not unfrequently

both. The lymphatic glands are enlarged and frequently indurated; often fifteen or twenty, or even more, of the inguinal glands may readily be distinguished by the feel, and many of them may be seen forming a tumour of no ordinary size in the groin.

Another essential and leading symptom of this disease, is a universally depraved appetite, and an ungovernable determination to the eating of dirt. The only appreciable signs of mental activity exhibited during the course of this disease, are the crafty and cunning plans which the patient most subtly matures, and as stealthily executes, to procure his desired repast. This consists usually of charcoal, chalk, dried mortar, mud, clay, sand, shells, rotten wood, shreds of cloth or paper, hair, or occasionally some other unnatural substance. Some pick and eat shreds from the garments they wear, till it can no longer be kept upon them; others swallow with avidity the hair which they pick from their own heads, until they are nearly bald before they are detected. Some negroes eat their tobacco pipes, and those of the other negroes. I was informed by a gentleman of the strictest veracity, that a negro on his plantation was thus morbidly fond of young rats, which he swallowed whole. The man, he had observed, had been declining for some time, and at length declared himself unable to perform his accustomed labour; he was accordingly ordered to the lazaret of the plantation, where the gentleman shortly called to see him; he found him with an empty calabash in his hand, with nausea, pain in the stomach, and a disposition to vomit; after labouring for a moment, he "brought forth" (from the stomach) "a mouse." There was not a single mark of mastication upon the little hairless quadruped, nor had it apparently been many minutes incarcerated; but, probably, being swallowed alive, irritated the stomach, and produced vomiting by its movements in its last struggles for life. The negro then acknowledged having thus indulged himself, so far as had been practicable, for months.—Peculiar to children under the age of ten or twelve years, and, late in the course of this disease, a state of ulceration often comes on, mostly confined to the cuticle and cutis vera of the feet, legs, and thighs, but sometimes the nates, as well as the hands and arms, are also affected. I seldom had an opportunity of noticing the progress of this ulceration until it had established itself in the true skin. It appears, however, from observation and inquiry, that at the commencement one or more small whitish and nearly round spots are observed about the ankles and feet, which somewhat resemble the first appearance of that also frequent and fatal disease, the "lepra," with which, however, it has no real connexion; the spots in the disease under consideration are of a deadly pale cast

or ash-colour, while those of leprosy assume a more lively and copperous redness. These spots or discolorations become daily more evident, until at length the cuticle gives way, others successively appear, and advancing in the same manner, also ulcerate. The number of ulcers is, in some instances, very great, from constant accessions, while none are disposed to cicatrize, and in other and very severe cases, the whole number does not exceed three or four.

These ulcers gradually increase in circumference and depth, till the cutis vena is penetrated; some of them are at length confluent, others remain unconnected, and in the most loathsome cases, the feet, legs, thighs, and sometimes the nates present one broad surface of ulcers, some small, and others running into each other, forming patches of greater or less extent.

When this ulcerative process commences, there is frequently mixed with the feces a small quantity of blood, and in one case which I saw attended with prolapsus uni, the lower part of the rectum was thickly studded with ulcers, small, but in other respects similar to those situated externally.

These ulcers of the skin are of the indolent kind; they have no raised or bordered edge, and actually discharge but very little, their surfaces being merely kept moistened by a colourless and apparently bland fluid, with no palpable signs of granulation. In this state of the disease the patient becomes more anasarcaous, not alone in the extremities, but the whole body, inasmuch that the features, however familiar they may have been, are quite obscured in the general tumefaction.

The diagnosis in this disease is by no means difficult; yet the patient, when accused of dirt-eating, which is too often urged as a voluntary crime, rather than an irresistible disease, invariably denies the charge. Under these circumstances, it may be necessary to resort to stratagem to detect him in the act, and make him feel and know that further prevarication is useless. If indigestible substances are swallowed, it is only required to wash the fecal dejections in water; after frequent rinsings the residual indigestible material decides the point at issue. In Surinam, the result of such a process is frequently a quantity of broken shells. The town of Paramaribo being partially situated upon a bed of marine shells, and the streets and walks of plantations as well as of the town being made and repaired with the same material, it is very often seized upon by dirt-eaters to appease that appetite which gives the character to this disease.

As curative means, neither promises nor threats, (even when put in execution,) nor yet the confinement of the legs and hands in stocks

and manacles, exert the least influence; and their preventive effect is as temporary as their employment; so great is the depravity of the appetite, and so strongly are the unfortunate sufferers under this complaint subjected to its irresistible dominion. A metallic mask or mouth-piece, secured by a lock, is the principal means of security for providing against their indulging in dirt-eating, if left for a moment to themselves, nor does this effect a cure or save the life of the patient.

The “*Dictionnaire des Sciences Medicales*,” under the head of *mal d’estomac*, mentions several cases of remarkably diseased appetite; but so close is the connexion, amounting almost to identity, with chlorosis, that it would seem very little was known of the former, as a separate disease, unconnected with the latter.

Dr. John Mason Good also assigns as causes for *Limosis Pica*, (which he says has been called *mal d’estomac*, or *cachexia Africana*,) pregnancy, chlorosis, and some species of mental emotion, and considers it to be a primary affection only when it is occasioned by the vanity of persons who accustom themselves to some empirical material, with a view to improve the form or complexion.

In a work published in London in 1811, entitled “*Practical rules for the management and medical treatment of negro slaves in the sugar colonies, by a professional planter*,” the author, in speaking of *mal d’estomac*, or dirt-eating, says: “it is the effect of relaxation, and its natural concomitant an impoverished state of the blood, arising commonly from mean diet, and may be produced by any other cause which induces a laxity of the solids.” “The power of the passions,” he observes, “in producing that effect, is very well known; and we find that negroes labouring under any great depression of mind, from the rigorous treatment of their masters, or from any other cause, addict themselves singularly to the eating of dirt.”

Without being competent to remedy the defect in our medical knowledge, I am confident the true causes and means of cure have never been well understood. Many scientific authors who mention this disease, have evidently no experimental knowledge of it; and others, who have had opportunities for information, have too generally confined themselves to superficial observation and pre-established opinion.

When we reflect that dirt-eating respects neither age nor sex, there needs no further argument to prove it to be a distinct disease, and in no way connected with chlorosis or pregnancy; and there is sufficient reason to believe that the disposition to eat chalk, clay, earth, and other absorbents, arises from an acidity of the stomach, which is so troublesome in chlorosis and pregnancy, but which—the opinions of

others notwithstanding—I have learnt, is by no means a general attendant upon the disease under discussion. From the fact that no age, from a few months, or years at most, is exempt from its ravages, we can neither admit as a cause an accustomed use of empirical materials, nor a melancholic or any other affection of the mind. The effect has been mistaken for the cause. The universal stupor and inertness of the faculties, both mental and corporeal, is an effect of the disease—not a cause arising from a bereavement of friends and home, of joys and kindness: and it may not be amiss to mention the following one of the many facts that go to prove this position. Persons living on the same plantation, perhaps on the identical section of the same plantation, on which they were born and reared, with all their friends around them, and by indulgent masters and owners, who are themselves the *real* slaves, while the owned are only *nominally* so, provided with ample food, raiment, and, if necessary, medical aid, are also subject to this malady.

The intellectual powers probably suffer in some ratio, depending upon the extent of the disease, and the dominion it obtains over the bodily powers.

As I have observed, wherever the disease is met with, the patient is listless and stupid almost to idiocy, and apparently regardless of comfort, or even of life itself. That superficial observers should look upon this in adult negroes, recently kidnapped and carried into slavery, as a cause, is not wonderful; but the fallacy of such an opinion is evident from the fact, that this same mental and corporeal torpitude prevails as one of the most prominent features of the complaint, alike in the free and in the bound—in the adult and in the child—in the foreigner and in the creole—in the mulatto, mustese or castese, and in the negro. With regard to the dark spots occasionally observed upon the tongue, resembling spots of ink, they are neither indicative of this nor any other disease—they are perfectly compatible with health, but are seldom met with. They are confined, I believe, to people of colour, and occur as often in the healthy as in the unhealthy, and perhaps depend upon accidental deposits of black pigment, to which is owing the colour of their skin.

How far constitutional peculiarities may predispose to this disease, I am not prepared to say; their influence is probably slight; there are, however, probably few diseases which are not in one way or another affected by various internal and external circumstances, though these are, nevertheless, not considered as causes. I have seen no evidence of its being hereditary. An improper diet is one cause of this complaint, but I knew of instances where the patient was not subject-

ed to such a diet; and, of course, it is not the only cause. Exposure to cold, as from sleeping in damp situations without suitable covering, is another cause.

From the insidious manner in which the disease under notice makes its inroads upon its victims, and the great care they take in concealing it, or what is more likely, from a general belief that it is irremediable, I have seldom been called (during a practice of nearly five years in Paramaribo) to administer to a patient labouring under this frequent malady until the ulcerative stage had commenced, and the fate of the patient thereby irrevocably sealed. Many of the cases that came under my view, I met with accidentally, and to most of them it was inconvenient, if not impossible to return. I had, however, determined upon investigating the subject, and ascertaining if it were possible to devise some better mode of treatment than was generally practiced. I left the colony soon afterwards, having proceeded but little way in my investigations. Opportunity may again offer, when I shall resume my attention to this disease: and in the mean time, if there can be disclosed a method of cure which is somewhat successful, it will enlighten at least one, and not improbably prevent the otherwise premature death of many.

Greenfield, Dec. 10, 1834.

[In the *Edinburgh Medical and Surgical Journal* for April, 1833, there is an interesting paper on dirt-eating by DAVID MASON, Esq. which as it affords information on some points which Dr. Cragin's opportunities did not enable him to investigate, we shall present some notice of here. In Jamaica, where the author witnessed the disease, it is, he states, commonly brought on by long abstinence, bad food, and an irregular and inadequate supply. The persons most exposed to these privations are fugitive negroes, who have absconded from their homes, and lead a wandering and necessarily watchful life, without any certain or constant means of subsistence: and the indolent negroes who, from mere laziness, neglect the cultivation of their provision grounds, and are thereby exposed to similar wants. These last sometimes resort to the practice designedly to produce ill-health, as a means of evading work. "The train of symptoms that progressively arise, are," according to Mr. Mason, "indigestion and emaciation, a bloated countenance, a dirty-yellow tinge in the cellular tissue of the eye-lids: paleness of the lips and ends of the fingers; whiteness of the tongue; great indolence, with an utter aversion to the most ordinary exertion; palpitation of the heart: difficult or rather frequent and oppressed respiration, even during moderate exercise, which never fails to induce a rapid pulse; habitual coldness of

the skin; and occasional giddiness of the head, attended with a disposition to faint, sometimes causing a state of stupor. As the disease continues and advances, dropsical effusion takes place in the thorax or abdomen, or both. The texture of the blood and other fluids become changed; the blood appears pale and watery."

These symptoms coincide very nearly with those observed by Dr. Cragin, and seem for the most part the result of an anemic condition, caused by imperfect nutrition.

Dr. C. appears to have had no opportunities of making post mortem examinations, and it may therefore be interesting to state the appearances on dissection met with by Mr. Mason, though his examinations do not seem to have been made with the degree of minuteness which modern pathology demands. The stomach being the primary seat of the disease, it might be expected, says Mr. M. that it "would show peculiar morbid changes on dissection, but in those cases which I have examined after death, these appearances were not very remarkable. The internal surface was usually covered with a whitish viscid matter, probably thickened mucus; the liver was generally found hard and condensed; and the gall-bladder filled with dark-coloured bile, nearly resembling tar in consistence and appearance." In the cavities of the heart, both auricles and ventricles, Mr. M. has seen, in many instances, "a kind of fibro-albuminous or gelatinous polypi, having long attached appendices floating loosely in the cavities, and the extremities of which are extended into the orifices of the great arteries. These polypi do not fill the cavities, but closely embrace the columnæ to which they are slightly attached; and the appendices are long, loose, fibrous-looking processes, which, although projecting into the pulmonary arteries, as well as aorta, by no means fill the orifices, nor are they found in the vena cava or pulmonary veins." They are compact, colourless, and insoluble in water or alcohol.

In a curative view, the first step, according to Mr. Mason, is, if possible, to reclaim the delinquent negroes from their slothful habits, to furnish them with the necessary quantity of food, to enforce cleanliness, and furnish proper clothing.

The strictly medical treatment recommended, consists, *first*, in the administration of emetics and purgatives, and afterwards a continued course of such tonic medicines as act more directly on the digestive organs. The best tonics Mr. M. considers to be a bitter laxative, infusion of lignum quassiae, rhubarb and ginger, in a pint of which eight or ten grains of sulphate of iron is dissolved. "I have generally found," says Mr. M., "the use of soda or potassa beneficial, and have combined either of them with these medicines, by dissolving one

or two drachms in the above infusion—of course the sulphate of iron by such combination will be decomposed. By a little agitation, however, the iron will be taken into the stomach in the state of oxyde—a form into which it is perhaps finally reduced in the system. Nevertheless, if this prescription should be considered objectionable, because unchemical, the iron may be given separately, either in the form of muriated tincture, or a simple solution of the sulphate in water. It is too essential a part of the remedy to be omitted.”

In the above advanced stage of the disease, and when dropsical effusion and hepatic disease make their appearance, Mr. Mason considers an alterative course of calomel and opium necessary. Where there is merely anasarca unaccompanied with hepatic disease, he considers the tonic laxative medicines above recommended, with blisters to the lower extremities and attention to food, cleanliness and exercise as often competent to effect a cure.

Mr. M. deprecates as most pernicious, the practice of confining the patient, in order to prevent him from obtaining the hurtful material; and free air and exercise he considers as necessary to the cure.—ED.]

ART. IX. *Fever, with ulcerations of the intestines and hæmorrhage*,
By AMARIAH BRIGHAM, M. D., of Hartford, Ct.

I am induced to send for publication the following cases, accompanied by a few remarks, believing that it is only by the accumulation of facts that we can reasonably expect ever to solve the mystery that has for thousands of years enveloped the subject of fever.

Mrs. B. of this town, aged sixty-nine years, was attacked about the middle of September, 1835, with the symptoms of continued fever then prevalent in this city.

She was not at any time considered dangerously ill, and the sixth day of October was thought to be convalescent, when suddenly a profuse hæmorrhage from the bowels terminated her life in six hours.

No examination of the body was had.

About eight or ten days after this, Mr. Stuart, son of Professor Stuart, of Andover, 22 years of age, student of law, and a boarder in the house with Mrs. B., was attacked with the symptoms of the same fever, but of a mild character. He had slight chills at first, with headache, and complained of weakness. His tongue became coated, and he had some thirst. After taking laxative medicine, the head-

ache diminished, and as he complained of no pain, but little was prescribed for him, further than to keep his bed, and pursue a moderately antiphlogistic course.

The evening of the sixth day of his illness he was considerably better, and appeared to be convalescent. His bowels had been gently moved that day, and he remarked that he thought himself on the recovery. He slept well until one o'clock of the same night, when he got up to use the close-stool, upon which, after a movement from his bowels, he fainted. He was placed in bed, and soon recovered from the faintness, and in a short time got up again, and again fainted in the same manner, and a third time he also got up and again fainted. At this time he looked so ghastly that his attendants became alarmed, and I was sent for. It was now discovered for the first time, that what had passed his bowels, amounting to two or three quarts, or more, was blood. I found him at four o'clock pulseless, nearly speechless, and apparently bloodless. After taking some hot stimulating and astringent remedies, he rallied a little—the pulse for a short time became perceptible, but it soon disappeared, and he expired at nine o'clock, eight hours after the first occurrence of the hæmorrhage.

In the afternoon of the same day, in company with Dr. Sumner, I examined the body. All the abdominal viscera externally, appeared pale, but perfectly healthy, with the exception of about three inches of the lower part of the ilium, which was of a darker colour and thickened. The mesenteric glands and veins near this portion were considerably enlarged. On opening the stomach and intestines, no disease was discovered at any other point, but at this part there were several round ulcers, with well defined, hard, and elevated heads. One of these ulcers was twice as large as the others, being of the size of a ten cent piece, and was more elevated and rough. From this had proceeded the hæmorrhage, as the open mouth of a large vein was distinctly visible. There was also one ulcer in the caput coli, but this appeared to be healing, as did one or two of the others.

The day previous to the death of Mr. S., Mr. D., aged 22, a boarder in the same house, went to another part of the state, and the following day became sick with fever, and died in a short time. The particulars of his illness I have not learned, further than that his brain appeared much affected, and that he died delirious.

One week after the death of Mr. S., a lad, aged 14, who lived in the same house, sickened with fever, and, after a protracted and severe illness, recovered.

I have known many cases of hæmorrhage from the bowels during fever, a few of which terminated fatally, while others have appeared

to be benefitted by the bleeding—but I have never witnessed a case when a fatal hæmorrhage occurred so soon after the commencement of fever as in the case of Mr. S. Abercrombie, in his *Pathological and Practical Researches on diseases of the stomach and intestinal canal*, relates one case strikingly similar in every particular to that of Mr. S.

That ulceration of the bowels occurs in fever, has been observed by Sydenham and the older medical authorities; and later pathologists have shown that it sometimes occurs in phthisis and other complaints, and very frequently in typhus and continued fever. Bretonneau says that ulcerative inflammation of the mucous glands of the bowels is generally found in those who die of fever. This ulceration is usually confined to the lower part of the small intestines. But what is the connexion between this ulceration and fever? Is the ulceration a cause or a consequence of the fever! I am inclined to believe that all fevers called essential have a local origin, though I cannot agree with Broussais that they all result from gastro-intestinal irritation; but I am of the opinion that in the case of Mr. S. the ulceration was the cause of the fever; and other cases which I have witnessed, together with numerous ones reported by Abercrombie, Louis, and others, have led me to the conclusion that many, if not most cases of fever, arise from ulceration of the intestines.

Does not such ulceration of the bowels frequently heal? I have stated that some of the ulcers in the case of S. appeared to be healing, and M. Louis observed some that he thought were ready to cicatrize. I hope the physicians of this country will direct more attention than they have hitherto done, to the examination of the bodies of those that die of fever, and especially to the state of the intestinal canal. I am aware, from my own observation, that the state of the intestines has been frequently overlooked in examinations of the body, and the fever attributed to the lesion of the brain or lungs, or some other organ that probably was secondarily affected, as we know that ulceration and irritation of the bowels is sometimes accompanied by, or appears to produce, violent delirium and disease of other organs. Sometimes ulceration of the bowels accompanied by fever suddenly terminates fatally by perforation of the bowels. Many such cases are recorded, in which there were no previous symptoms indicating disease of the intestines, at other times disease of the bowels was indicated by severe pain or diarrhœa. Many cases, however, of ulceration like that of S. were unaccompanied by pain, diarrhœa, or tenderness of the bowels, or by any symptoms indicating disorder of the abdomen, or that could distinguish them from cases of continued fever, that recovered.

I see no symptoms in any of the four cases I have mentioned, but

what may reasonably be attributed to ulceration of the bowels. The case of Mrs. B. and that of S. proved fatal by hæmorrhage; the delirium and affection of the brain in the case of D. might be secondary and caused by disease of the intestines, while that of the lad might be one in which the ulcers healed. These cases all seemed to originate from some common cause, as the individuals lived together, and their symptoms were similar at the commencement. I ought to observe, that, at the same time, there were an unusual number of instances in this city, where all or nearly all the members of a family had fever, one after another. The treatment of fever which has proved most successful would seem to justify the opinion, that, in many cases, the cause of the fever was disease of the mucous membrane of the bowels. I allude to the treatment by bleeding, leeches to the abdomen, gentle laxatives, demulcent drinks and quiet.

The practice of letting the bowels remain unmoved in fever, or only moving them by very gentle means in the commencement, has been adopted by many practitioners of experience in this vicinity, and though I have never adopted it myself, yet I have been surprised to see that very often those thus treated recover. But I cannot explain the recovery in such cases, without supposing the primary disease to be something like ulceration of the intestines, and by letting the bowels remain quiet this ulceration heals. Those who have adopted this practice have resorted to it, not from any theoretical views, but because they observed that moving the bowels frequently in fever produced diarrhœa and irritation of the bowels, which aggravated the disease, and often rendered it fatal, while, on the contrary, if the bowels were not moved, patients thus treated more frequently recover. Some who have adopted this practice have greatly erred, I think, in supposing that purgatives did injury by too greatly reducing the system, and have avoided other and necessary depletion by bleeding, and have often improperly resorted to stimulants.

I know that a powerful purgative in the commencement of fever sometimes appears to be serviceable, and this would no doubt be so in some cases, if the fever arose from ulcerative inflammation of the intestines, by its tendency to lessen the inflammation, and thus dispose the ulceration to heal. Still I am confident that frequent purgatives in fever in a majority of cases are injurious; their beneficial effect arises from the depletion they produce, and this can be effected far more safely by bleeding. Guided by these views, I think I have found that when the symptoms would warrant bleeding, that the abstraction of blood in the commencement of fever, together with gently evacuating the bowels, followed by local bleeding, blistering,

and cataplasms to the abdomen, with demulcent diaphoretic drinks, the avoidance of purgatives and stimulants, with complete quiet of body and mind, to be the most successful mode of subduing fever. Sometimes, to be sure, symptoms arise, requiring the use of opium and other remedies. Sometimes calomel appears to be serviceable, and it would no doubt be so if the disease depended upon ulceration of the intestines. But my object is not to enter into detail respecting the treatment of fever, but to awaken inquiry, by calling attention to the fact, that ulceration of the intestines is a very frequent occurrence in fever, and may perhaps often be the cause of the disease.

Hartford, Conn. January 1, 1836.

ART. IX. *Case of Umbilical Hernia.* By Dr. P. FAHNESTOCK, of Chambersburg, Pa.

The subject of the following operation was a female child, aged seven years and six months—of stature so diminutive as to resemble a child of three or four years. The body and extremities were out of relative proportion; the magnitude of the head was equal to that of an adult; the superior extremities were of natural size, but the inferior members were small and delicate; the chest projected in a remarkable manner, whilst the neck was so very short, that the chin and the superior extremity of the sternum were in close approximation. The parents of the child have recently emigrated from Germany.

Some time in the last month the child was presented to me, for the purpose of having Hood & Chase's patent truss applied, but the application of several instruments of different construction soon rendered it manifest that the retention of the protruded parts was utterly unfeasible, more especially as the ring through which the hernia emerged presented a diameter apparently of three inches, whilst the enormous tumour extended to the knees. For days in succession the parents of the child importuned me to do something with the view of rescuing the suffering child from impending death. In reply to their urgent solicitations, I candidly stated the difficulties that, in the event of an operation, stood in the way of a successful issue.

To this end, an examination of the case, on the 23d ult., was instituted, in consultation with Drs. Bain, Elder, and Senseny, jr. The hernial tumour presented the following dimensions:—At the neck, it

was 12 inches in circumference; about 6 inches in advance of this part it was 15 inches, whilst it measured 17 inches longitudinally. These measurements were taken in the recumbent posture. When erect, and favoured by the relaxation of the abdominal parietes consequent on the constant weight and drag of the hernial mass, it depended to the child's knees. On the lower posterior part of the tumour, *two extensive ulcers* were found in the integument, one of which had nearly penetrated through its parietes. Add to this the incessant suffering inseparable from such a condition, the constant exposure to danger from blows and falls, as well as the future incapacity of following any employment requiring bodily exertion, and the reader will be better enabled to form a proper estimate of the case. The protrusion, evidently consisting both of intestine and omentum, appeared completely reducible. Under views of this character, the consulting physicians coincided with me in the propriety of an operation.

"The performance of the operation for strangulated hernia," observes Sir Astly Cooper, "does not prevent the future descent of the intestine or omentum, but perhaps renders the patient more liable to its recurrence, as the mouth of the sac is by the operation considerably enlarged." With the view of obviating this subsequent protrusion, he recommends the employment of a truss. The removal of the hernial sack by excision or ligature, or its return into the abdomen, has also been proposed as a means of affecting a radical cure, but the experience of Sir Astly teaches us that neither of these modes will prevent the re-formation of a hernia. This, indeed, is evident, upon a moment's reflection; for, as the aperture remains equally large, the liability to another protrusion is certainly not diminished. "The great danger of this operation," says he, "is in the inflammation, which is likely to be induced by the action of the ligature upon the peritoneum, and in this inflammation extending to the cavity of the abdomen."

Hence it would appear that to effect a radical cure is still a desideratum among modern surgical writers. Believing, however, that, in the case before us, this end might be attained, by availing ourselves of one of the best established principles in practical surgery—a modification, in truth, of the ancient mode of treatment, revived of late years by Desault—I suggested the expediency of applying a flat ligature to the hernial bag, after its contents had been carefully returned into the abdomen, with the view of *merely exciting the adhesive inflammation*; whilst another ligature, in advance of the former, should be applied for the purpose of strangulating the part so completely as to interrupt the circulation. The remarkable success attending well

directed pressure in the case of hernia, has already been abundantly illustrated in the use of Hood & Chase's truss. Celsus, and many of his predecessors, according to Professor Heister,* pursued a mode of operating, in some respects, similar. After reducing the protruded viscera, a needle, armed with a double ligature, was passed through the neck of the tumour, close to the navel, and then firmly tied on both sides. Others, continues Heister, recommend an incision into the sac, with the view of ascertaining the complete reduction of the protrusion. The application of a ligature to the basis of the exomphalos, in the hands of Desault, effected a radical cure in upwards of fifty cases; but as this operation proved unsuccessful in a girl aged nine years, he thinks the probability of the cure diminishes with the age of the patient. In the present case, therefore, I endeavoured so to modify the operation as to render subservient to a radical cure, that pathological property of adhesion between the tissues, which is induced by a certain grade of inflammatory action—a phenomenon more especially pertaining to the serous membranes. As evil consequences, reasoning *a priori*, might, of necessity, be attributed to this operation, it may not be improper to assign the reasons which impelled me to its adoption. When the ligature is applied directly over the peritoneal sac, Sir Astly Cooper apprehends danger of “inflammation extending to the cavity of the abdomen;” but the objection is far from obtaining with the same force, when applied over the dermoid teguments. In the physiological condition of the serous tissue, the extension of phlogosis is, indeed, very rapid; but experience has proven that the danger of opening serous cavities in dropsies and hernia, is much less than in the normal state, because the irritability of the tissue has become greatly obtunded; this high extended and retractile membrane, in fact, undergoes a change in its interstitial arrangement; it not only increases in extent, but the tissue becomes thickened, and loses its transparencies—phenomena, doubtless, resulting from hypernutrition.

The operation was performed in the following manner:—The patient being placed on her back, the contents of the hernia were returned into the abdomen, and the sac raised and twisted with the view of insuring more fully the reduction of the intestines and omentum. A flat buckskin ligature, three-fourths of an inch wide, was now applied as near the abdomen as possible; not so firmly as to strangulate the parts, but sufficiently so to retain the viscera, and to excite the adhesive inflammation. A strong silk ligature was next

* Chirurgie, p. 710. Nurnberg, 1763.

applied with sufficient firmness to interrupt all circulation, about an inch distant from the former. The application of the latter ligature did not excite much pain, as the sensibility of the part had been blunted by the compression of the buckskin ligature. The patient proved very restless the ensuing night, making frequent demands for drink.

24th, morning.—Abdomen much distended and tympanitic; pulse 180; no evacuation from the bowels since the operation;—administered calomel grs. x. 12 o'clock, M. calomel has procured no stool; pulv. jalap, grs. x. Evening, bowels still unmoved—ordered enema, which induced several copious discharges.

25th. Much improved; pulse less frequent; thirst diminished; abdomen soft and flaccid: hernial bag black and offensive, removed with the scalpel. It was now discovered that, as the omentum had contracted an extensive adhesion in the lower portion of the sack, it was also included in the ligature; this gangrenous omentum was likewise removed close to the ligature.

26th. Had a good night; took nourishment, as milk; appeared inclined to playfulness during the day: some inflammation and swelling manifested around the ligature.

27th. Dressing the wound this morning, pressure was made on the part, which gave exit to a considerable quantity of pus. Milk diet continued—no medicine.

28th. Same condition; pulse 89.

29th. Enjoyed a good night's rest. Healthy purulent secretion from the umbilicus; had two moderate alvine evacuations; drinks milk freely—pulse natural. Evening—Pulse 120; had three stools during the day.

30th. Very favourable. This evening the lint used in dressing the wound was saturated with the water of kreosote. Bowels natural.

Dec. 1. About one half of the substance included in the ligature having escaped from it, a triangular cavity is formed; the viscera of the abdomen are not visible, but the bottom of the wound presents healthy granulations. Evening—Both ligatures have come away; the wound presents a healthy aspect; pulse and bowels natural—continue kreosote, and milk diet.

2nd. Disturbed sleep. Drank little milk, in consequence of the attempt causing what the mother described as a “choaking.” Had one evacuation resembling undigested milk. Learned this morning that the mother had imprudently taken the child, for several preceding nights, from a warm apartment to a cold bed-chamber. It is this evening labouring under a severe catarrhal fever. Every attempt at deglutition causes a violent spasmodic action of the glottis.

3d. Died this morning, at 3 o'clock. Several convulsive paroxysms preceded death.

Autopsy, thirty hours after death, in presence of Drs. Bane, Elder, and Senseny, jr. Two incisions were made, commencing at the scrobiculus cordis, and terminating at the spine of each ilium, with the view of preserving the parts concerned in the exomphalos. The ring was perfectly closed by adhesion and granulation, which sprung from the tendinous margin of the hernial ring; the colour adhered to the inner surface of the granulations; not a trace of inflammation could be detected in the omentum, intestines, or peritoneum; the stomach, spleen, liver, and gall-bladder, presented a natural aspect; the omental vessels, divided by the ligature, were closed by adhesion.

Remarks.—From a review of the foregoing case in all its details—the pathological phenomena observed during life, and the appearances revealed after death—it is apparent that the patient was carried off by a malady, independent of the hernial operation. The manifestations of morbid action, subsequently to the operation, were expressed in such decided language, than an analysis of the principal phenomena is rendered easy. The absence of abdominal tenderness, and the spastic condition of the abdominal muscles, excited by pressure, afforded an unerring indication that peritonitis did not exist, and the post mortem examination demonstrated the correctness of this assumption. The fatal issue of the case, doubtless, is to be attributed to the child's imprudent exposure; the extensive morbid implication of the respiratory organs strongly corroborates this opinion. The strangulation of the omentum by the ligature, affords no evidence that death was hastened by this cause, for the abdominal organs exhibited no adequate lesions; moreover, Sir A. Cooper, in operating for strangulated hernia, recommends the removal of omentum by means of the knife when a very large portion protrudes; whilst the older surgeons, with the view to occasion a slough, followed the now obsolete practice of applying a ligature.

Upon the whole, however, were I called upon to operate in a similar case, I would adopt the method referred to by Heister as sometimes pursued by the ancients. I would lay open the hernial sac before the application of the ligature; inasmuch as the sense of touch, however acute, cannot determine *absolutely* the return of all intestinal protrusion. This mode of operation was successfully practised in a case under the care of our celebrated countryman, Dr. Wistar.

Chambersburg, Pa., Dec. 15th, 1835.

REVIEWS.

ART. XI. *Traité de Pathologie Générale, par E. Frédéric Dubois, (D'Amiens,) Professeur agrégé à la Faculté de Médecine de Paris, &c. &c.*

“*Docenti autem procedendum est à generalibus ad singularia quæque, dum inventa explicat; ut inventori contrà à Singularibus ad generalia eundum fuit.* BOERHAAVE, *Inst. Med.*” 8vo, 2 vols. pp. 599, 585. Paris, 1835.

A Treatise on General Pathology, by E. F. DUBOIS, of Amiens.

As a science, general pathology has existed only within a very recent period. Previously to the development, by Bichat, of the details of general anatomy, its real character and scope were absolutely unknown. Since then, however, numerous observers have devoted their talents and industry to its cultivation, by the result of whose labours this branch of pathology has now become invested with a peculiar degree of interest and importance.

Investigating the characters of the several morbid states to which the different textures of the organism are liable, in connexion with the causes by which they are produced, and the modifications in the functions and anatomical conditions of the parts affected, to which they give rise, it must be evident that *general* pathology constitutes an indispensable introduction to the study of *special* pathology. Without, in fact, an intimate acquaintance with the first, it will be impossible to acquire correct and satisfactory views in relation to the latter.

The work of M. Dubois, is, we believe, the most recent treatise that has appeared, purporting to present a complete exposition of the science of general pathology. How far it deserves this character will, however, admit of some dispute. It appears to us that the author has, in some degree, mistaken the real province of this branch of pathology, and by describing diseases as they affect the different organs and apparatus, has intrenched to a very considerable extent upon that of special pathology. This, though it changes materially the character of the work, does not in the least detract from the importance of the several subjects which it embraces. It is the manner in which these are treated that will demand our attention on the present occasion.

The treatise before us is divided into three grand sections. In the first, "which corresponds to the older treatises on general pathology," the author examines disease in its most general point of view, in reference to causes, symptoms, anatomical lesions, &c.

"In the second section are comprised those diseases which may affect many systems of the animal economy, either successively, symptomatically or simultaneously, becoming progressively, or at once, general.

"In the third section, the diseases of *each system* are examined in a general manner."

Under the head of diseases, M. Dubois includes all the surgical accidents, fractures, wounds, burns, congelation, contusions, dislocations, &c. Although we do not object to a consideration of these being embraced in a system of general pathology, simply as accidents to which the different tissues of the organism are liable, yet there is a certain looseness in the manner in which they are introduced in the present work, which is calculated, we fear, not a little to confuse the mind of the student. The accidents referred to above cannot with propriety be considered as diseases; they may—many of them do invariably—produce a morbid condition of the different textures in their immediate vicinity, or in those more remotely situated, and hence they are to be ranked, in a system of general pathology, among the occasional causes of disease.

At the close of each disease, the author presents a general, and we may add, a highly interesting sketch of its mode of treatment. This is likewise, in our opinion, travelling beyond the limits of general pathology, though we confess we should not desire the omission of the very excellent therapeutical directions contained in the work before us. Pathology, according to its etymology, will, it is true, include every thing relating to disease, but it is now invariably used in a more limited sense. Arguments drawn from the effects of remedial agents are occasionally useful in illustrating the nature, causes, and even the seat, of diseases, but the general consideration of the treatment of the morbid states of the organs or tissues does not certainly constitute a legitimate branch of pathology.

The first section of the work is devoted, as we have stated, to the consideration of disease in general, without reference to its particular seat. In the initial chapter, after comparing the study of the physical with that of the medical sciences, and presenting a few remarks upon the division of pathology into different branches, M. Dubois presents us with the following as his views in regard to the province of general pathology.

"If general anatomy embraces all that relates as well to the structure of the organism, considered as a whole, as to the different systems of which that organ-

ism is composed, it is perfectly natural to conclude, that general pathology should equally embrace every thing that concerns the abnormal condition both of the entire organism and of its several parts."

In the above sentence the author has evidently misstated the province as well of general anatomy as of general pathology. General anatomy embraces the structure and properties of the simple textures, "the organized elements," as Bichat styles them, of the animal body, and, according to our conception of general pathology, it is an investigation into the morbid changes occurring in the vital properties and organization of these simple textures—the history of the elementary forms, if we may so express ourselves, of disease.

The chapter closes with a definition of health and of disease. Upon the latter the author's remarks are laboured, but, at the same time vague and unsatisfactory. He passes in review the several definitions offered by different writers, to the whole of which he objects. His objections are, however, not always founded upon very satisfactory reasons, nor very clearly expressed. In this and other portions of the work, M. Dubois, when treating of the peculiar views of Broussais, has evinced a degree of personal animosity towards the latter, and a desire to undervalue the importance of the pathological doctrines advanced by him, which, notwithstanding an occasional expression of faint praise, exhibits not a little want of candour and liberality. In some instances, when he has attempted to exhibit the absurdity and contradiction of certain of the propositions of M. Broussais, we are under the necessity of presuming that he has misunderstood their meaning, or of accusing him of a wilful misrepresentation of their real bearings and of the conclusions deducible from them.

According to M. Dubois, disease consists in a derangement of the vital actions of the organism, totally independent of any degree or species of anatomical lesion. In attempting to arrive at a proper definition of the nature of disease, he remarks, "we should not examine into the *state* or *condition*, (*ce qu'ést*) but into the *actions* (*ce qu'é fait*) of the organism. In other words, disease consists merely in a derangement of function, or as the author expresses it, in a general or local reaction, occurring under the influence of certain morbid causes. Hence he declares "there is no disease but when the organism has had time to react." "Diseases being, therefore, vital acts, cannot be located."—"The (morbid) acts are executed by the organs, but not located in them." These propositions M. Dubois considers of fundamental importance, as leading to the true character and relation of the different morbid affections to which the organism is liable.

"As for us," he remarks, "who are likewise vitalists, we recognise, as we shall

prove in our section on organic lesions, that in every disease the primary lesion is essentially vital; that there is always in the commencement a lesion of innervation. We recognise, besides, that, most generally, there is a tendency in disease, that is to say, in the modifications impressed upon the forces which govern the acts of the living molecules, to return to the normal state; while in other cases there is a tendency to the most complete disorganization; that is, a tendency directly the reverse of that supposed by medical optimists. We recognise finally, that Reil has, very correctly, after the example of the ancients, given the name of *reaction* to that series of vital modifications which follow the action of a morbid cause. This necessity of a reaction to the existence of disease being admitted, many difficulties are removed. In the first place, the difficulty of fixing upon the seat of many diseases. Is the reaction local? It is sufficient that we ascertain the point at which it commenced, the part by which the impression of the morbid cause is experienced. Does the reaction become general? We know the *organs* by which it is executed. All that remains, therefore, is to ascertain the mode of action of the cause; whether it be external, or has been developed within the organism. In all cases it is the organs which produce the morbid actions, but we cannot therefore say that those actions—in other words, the disease—has a seat.

"Another difficulty that is removed, is that of determining, in many instances, the point at which the disease commences. Various organs may be the seat of tubercles; to produce these requires a local morbid *phenomenon*; but so long as these tubercles do not excite a reaction, there is no disease; there merely exists an eventual cause of disease, the same as in the case of entoxication. An individual is deprived of one of his external senses! When all the accidents excited by the cause which has produced this deprivation have disappeared, there is no longer any disease: the organism accommodates itself to this as to every other mutilation. Another individual has a hernia, this is merely an infirmity, so long as it occasions no disturbance of any function of the body.

"With respect even to disturbances of function. Are they excited physiologically—are they the immediate effect of a physiological movement, as in the case of the menstrual flux, the expulsion of the fœtus, &c.? there is then no disease. In a word, for disease to occur, it requires that the reaction should be abnormal, or exceed the physiological limits."

The foregoing sentences contain many remarks which, though very common-place, are nevertheless to a certain extent correct; these are, however, combined with others that are evidently founded in error. The normal functions of the system especially, can in no instance be ranked, as they are by the author in the sentence quoted above, among disturbances of the vital actions.

The whole of M. Dubois's observations upon the nature of disease, generally considered, are rendered obscure and contradictory, and his leading deductions inaccurate, from his having confounded, in many instances, the remote effects of disease with disease itself; and from his having applied the same general term to the abnormal state of the simple textures, and also to the whole series of morbid phenomena thence resulting. In investigating the nature of disease it is as necessary to examine into the condition of the organs as into the derangements of functions which they exhibit. The latter cannot with

propriety be considered, as the author has apparently attempted, independently of the former.

All diseases consist primarily and essentially in an abnormal modification of the vitality of one or more of the simple tissues of which the different organs are composed, giving rise invariably to a derangement of function, often to a change, more or less extensive, in the organic or anatomical condition of the part affected. In many cases the modification of the vitality of a tissue has, it is true, a tendency very readily to give place to its normal state; in other instances the modification may occur in a tissue entering into the composition of an organ, the integrity of the functions of which is essential to life; here death often takes place without the occurrence of any anatomical lesion whatever. It likewise frequently happens, that disease extends from the part primarily affected to some other tissue or organ, and terminates fatally, without any perceptible change being produced in the organization of that in which it commenced.

Pathologists, it is true, have not, as yet, and perhaps never will be able to discover the nature of that change in the vitality of the tissues which gives rise to derangement of their functions, and a deviation from their normal organization. Hence, it is to the latter alone that our investigations must be almost exclusively confined. But, as the functions of an organized structure are merely vital acts performed by it, it must be evident that, whenever these acts become disordered, the structure itself upon which they depend, must, to a certain extent, have likewise become changed from its normal state, notwithstanding this change may not be detected by our senses; hence, it is perfectly correct to say that diseases are located in the tissues or organs by the disordered actions of which their phenomena are produced. M. Dubois appears to have been misled, when commenting upon the opinions of those pathologists who insist upon the local origin of all diseases, by supposing that when a disease is said to depend upon a lesion of one or more of the simple tissues, it is invariably meant that a perceptible change has occurred in the organization of the latter: with our author we fully admit that in all cases the anatomical lesion is the effect and not the cause of the disease.

In the greater number of cases, when disease is considered as it occurs in the simple textures, its immediate as well as remote phenomena may be very properly denominated vital actions performed abnormally, but not invariably, for all the symptoms of disease may, and very often do, depend simply upon the suspension or diminution of the actions of one or more organs. The assertion of M. Dubois, that there is no disease, excepting when the organism reacts, is alto-

gether erroneous, provided he employs the term reaction in its ordinary pathological sense. Many diseases are unattended throughout by reaction, and in many others so far from even the general symptoms depending upon a reaction of the organism, such reaction only occurs when the disease, properly speaking, is removed.

The author has carried his doctrine, that all diseases depend upon a vital reaction, so far, that in the case of tubercles of the lungs, for example, he will not admit that any disease exists, unless the tubercles have advanced to that state when they produce irritation or disorganization of the texture in which they are situated, together with an evident derangement of the functions of the respiratory organs. Carrying out this principle, he would, we presume, deny the existence of disease in the cases related by different writers, where, after death, extensive inflammation of important tissues was discovered, the presence of which had not been manifested during the life of the patient by any evident symptom. The existence of tubercles in any given tissue is an evidence not only of a modification of the organic functions of that tissue, but of a consequent change in its organization, often to a very considerable extent. By the general pathologist, therefore, they must be ranked among the indications of disease affecting that tissue.

The ensuing chapters of this section are devoted to the consideration of the general causes of disease. The opinions of the author, in relation to this subject are, upon the whole, extremely judicious, and such as we should feel no hesitation in adopting to their full extent. It is true that from his explanation of the mode of action of morbid agents, we occasionally dissent, in consequence of the different views we entertain as to the true character and primary seat of certain diseases. We likewise notice a few inaccuracies into which the author has fallen, evidently from the want of an attentive investigation of the points to which they refer. His remarks on hereditary affections, on specific causes, and on the sporadic, endemic, and epidemic forms of disease, evince, generally speaking, a sound and discriminating judgment. His views concerning contagion and infection, in particular, are extremely accurate.

The chapters which follow, comprise the symptoms of disease in general. This is a highly important subject, but one which we regret to say the author has treated in a manner altogether unadapted to a system of general pathology. The phenomena of disease are referrible, first, to the altered vitality and derangement of the organic functions of the tissues primarily affected; secondly, to the derangement of the functions of those organs of which the diseased

tissues form a component part, and thirdly, to the derangement of the functions of other tissues and organs, to which the disease has extended from the part where it commenced, or the normal actions of which are so intimately dependent upon the integrity of the latter, that a disturbance in the functions of the one, produces invariably a disturbance in the functions of the other. It is the first set of symptoms which demand the principal attention of the general pathologist. M. Dubois has, however, overlooked entirely this analysis of morbid phenomena; while his remarks, extremely vague in themselves, relate almost exclusively to those symptoms immediately dependent upon disease considered in reference to the different organs and apparatus. It is unquestionably true, that an attention to almost every particular referred to in the chapters under consideration, is of importance to the physician; what we complain of, is the little immediate connexion that exists between them and the main subject of the present treatise, the general pathology, namely, of disease.

The author very correctly remarks, "that, at the present day, the doctrines of pathology have brought medicine back to its legitimate object—the knowledge and treatment of diseases being at length based upon an investigation of the diseased organs." We, of course, should extend the term organ, as here employed, to every portion of the animal frame, including the simple tissues as well as the organs formed by their aggregation. "The symptoms," adds M. Dubois, "are nothing more than the phenomena connected with an abnormal state of the organism; phenomena, the occurrence, development, and succession of which are altogether dependent upon the morbid condition of the organs." It is to be regretted that the author had not always borne in mind these important truths—they have certainly had very little influence upon some at least of his pathological deductions.

His observations upon the occurrence, development, and progress of the symptoms, are in the highest degree interesting; they have, nevertheless, reference rather to the phenomena of disease considered as a series of abnormal actions resulting from a disturbance of the functions of the organs themselves, than to those morbid phenomena produced by an abnormal state of their component tissues.

"Medical writers," he remarks, "designate by the term precursory symptoms, or forerunners of disease, all the morbid phenomena which present themselves, from the moment when the functions of the organism are no longer executed as in a state of health, until the full development of the disease takes place. This mode of expression is an abuse of terms, as well as of things. What is that state which is no longer either health or disease? How is it possible to fix upon an interval, marked by peculiar phenomena, between the cessation of health and the commencement of disease? The real cause of this abuse of language is this:—

the presence of a certain number of symptoms is required for the establishment of our diagnosis; certain groups of morbid phenomena must occur, arranged in a particular manner, before we can say that a given disease is present. Now, so long as the symptoms are neither sufficiently intense nor significant in our estimation, we assert, with grave presumption, that, as yet, there is no disease; and yet, we admit, without embarrassing ourselves as to the logical consequences of our admission, that there is no longer a state of health.—Whenever, (he adds,) there occur prodromes, precursory symptoms, &c., there is disease. These are the general expressions by which we indicate its existence, until its phenomena have, in our estimation, become more definite, and thus enable us to determine its precise nosological character. But it is incorrect to say that disease has not yet occurred, while we admit that there is no longer a state of health."

The truth here insisted upon, that disease, namely, commences from the moment a derangement of any of the functions of the organism is perceived, is one of no trifling moment. The remarks of M. Dubois evidently relate, however, not to disease, as it exists in the simple tissues, but to those groups of symptoms to which the term disease is restricted by nosological writers.

What are generally denominated prodromes, or precursory symptoms, depend, in the larger number of cases, upon the occurrence of an abnormal state of some one of the simple textures, which, however, has not as yet produced any very serious disturbance in the functions of the organ of which the affected tissue forms a part, nor of those parts which more immediately sympathise with it. This is an important fact, and should be kept constantly in mind by the physician. A strict attention to it will enable him often, by a timely administration of appropriate remedies, to break the very first link in the chain of morbid causation, and thus prevent the occurrence of disease of a more serious and unmanageable character. It is in consequence of overlooking the real character of what are termed premonitory or precursory symptoms, and considering the disease to commence only when it has arrived at a certain degree of intensity, and has extended its effects beyond the tissue in which it first occurred, and when usually the morbid condition of the latter is in a great measure obscured by the disturbance existing in the functions of several important organs, that much of the dispute in regard to the local origin of particular diseases, and the part at which they commence, has originated.

The two chapters on the development and progress of symptoms, are replete with judicious observations. These relate, however, to the phenomena of diseases affecting the functions of the principal organs and apparatus, and have but an indirect bearing upon those points more immediately demanding the attention of the general pathologist. The rapid or gradual development and progress of disease

in the simple textures—the nature and succession of the morbid phenomena thence resulting—their continuance, augmentation, remission and intermission, are almost entirely overlooked by the author, and yet they are subjects of very great interest and importance to the physician; correct views in regard to them being essential to a proper estimate of the same points in relation to the disturbances which affect the functions of the organs and apparatus.

In the chapters devoted to the general consideration of anatomical lesions, the author enters into a long argument, to prove, what we believe very few will deny, that, namely, the morbid changes which occur in the organization of the tissues do not constitute the disease, properly speaking, but are, on the contrary, produced by the latter. Under the term anatomical or organic lesion, it is proper, however, to remark, that M. Dubois includes not only those changes in the anatomical character of a tissue or organ, produced by an abnormal condition of the organic functions of the part, but likewise the immediate effects of injuries inflicted upon the tissues by external agents. Hence, he very properly remarks, that organic lesions, when taken in this extensive sense, “are sometimes the result of disease, and sometimes the cause, either eventual or real—either temporary or permanent, or finally indestructible, in that sense mortal, inasmuch as being incurable, they keep up continually a destructive reaction.”

Confining ourselves strictly to the case of pathological lesions, or those which are actually produced by an abnormal state of the functions of the part in which they occur, it is well known that many of these also excite in their turn morbid phenomena, often of a more important character than those which existed previously to their occurrence, and hence may with propriety be classed, in a certain sense, among the causes of disease.

The author, however, has advanced the broad proposition, that the presence of anatomical lesions by no means implies the presence of disease, inasmuch as they may be unaccompanied by reaction of the organism. Although this would be strictly true to its fullest extent, were disease to be considered only as a certain series of abnormal actions, resulting from the derangement of the functions of the more important organs, it is nevertheless incorrect, excepting in a very restricted sense, when disease is considered as it presents itself in the simple tissues. Every pathologist must be aware that abnormal actions may exist in certain textures, often for a length of time, and may even produce a very considerable change in the anatomical condition of the parts affected, without any very sensible derangement taking place in the functions of the organs into which these textures

enter. It would not do, however, in such cases, to say that no disease exists, simply from the circumstance of the abnormal action and its effects being confined strictly to a structure capable of enduring very considerable injury, without exciting diseased actions in any other portion of the organism. As a general proposition, therefore, there is not a little error in the assertion of our author, "that numerous organic lesions may exist in the organs without the occurrence of disease, inasmuch as their presence is not invariably accompanied by (what he terms) the true elements of disease, the phenomena, namely, of either a general or local reaction."

Changes of organization do unquestionably occur as the effects of disease, and may remain after every symptom of the latter has disappeared. These changes come strictly under the denomination of organic lesions. They are, however, of a very peculiar character, as they do not interfere in any perceptible degree with the normal functions of the organ in which they are seated. But the term organic lesion, as the reader will hereafter discover, is employed by M. Dubois in its most comprehensive sense, and hence includes the local phenomena of inflammation, congestion, hæmorrhages, &c.; indeed every perceptible change in the secretions, colour, thickness, density, &c., of a tissue. It is on this account that we object to the proposition last quoted. We repeat, what we have already more than once remarked, that in a system of general pathology our investigations are to be confined to disease as it occurs in the simple tissues, and not to those groups of symptoms which constitute the diseases of nosological writers.

To present to our readers a specimen of the author's reasoning on the subject of organic lesions, we translate the following paragraphs.

"Disease, we say, may exist, before the occurrence of alteration in the tissues. Is this equivalent to asserting that disease may exist at first, independent of the organs? By no means. I am aware that all pathologists who do not regard anatomical lesions as the true and only character of diseases, have been accused of giving countenance to such an assertion, but it is merely one of those absurdities that have been attributed gratuitously to the vitalists. When the latter assert that there is disease previously to the tissues being altered, they mean before those alterations which affect the material condition of the organs, their weight, density, colour, &c. But I have more than once remarked, that there exists in the living organism something besides these physical properties, for all these may continue unimpaired after the extinction of life. That from the moment disease occurs the organization is morbidly affected, there can be no doubt—the vitalists, themselves, acknowledge the fact. But the part of the organism which is interested at the commencement of the disease is of such a nature, that it escapes, and perhaps ever will escape, all our means of investigation. The latter can only inform us of the material changes formerly referred to; that is to say, of the changes in the cohesion of the tissues, in their form, texture, colour, weight, smell, taste, chemical composition, &c. Properties, no doubt, essential to the continuance of

life, but insufficient to constitute it. M. Broussais has, therefore, very correctly remarked, that every spontaneous disease is vital in its commencement. Its spontaneity proves that, under the influence of causes, for the most part obscure and almost unknown, the organization has been abnormally affected in some one of its elements, of which our senses can take no cognizance. Arm, if you please, your eyes with the most powerful microscopes, you will find nothing unusual in the form of the organic globules—nothing abnormal in their colour. Invent instruments of the utmost delicacy, to ascertain the difference in their weights, and the result will be the same. Disease, nevertheless, already exists; vices of organization have occurred, indicated solely by the group of symptoms they produce—vices not discoverable by any material phenomena, but rendered evident only by their phenomena. There is hence great truth in the observation of Broussais, that, to arrive at a correct knowledge of the pathology of internal diseases, it is necessary to pay the closest attention to the groups of symptoms, from the moment of their occurrence, in order that we may appreciate their just value. This precept is not only strictly true, logically speaking, but it is also true in a therapeutical point of view; of this the explanation of the author just referred to may be adduced in evidence. The cure of diseases, he remarks, is effected with more difficulty after the structure of the organs is altered, than when that structure is yet intact. In consequence of the use of this latter term, some degree of absurdity may perhaps be attributed to Broussais, as well as to myself, by whom the above proposition is adopted in its fullest extent. It may be said that we admit the existence of disease with an organic structure intact, in every sense of the word; which would be equivalent to asserting that an individual may be sick while his entire organism is in perfect health. By organic structure, should be understood the material condition of a part as revealed to our senses, such as the disposition of its fibres, the organization of its vascular and nervous textures—its colour, form, consistency, degree of congestion, &c. Now, all these conditions may be intact in a portion of the economy, and yet this part may be the seat of disease; and the part so diseased may be the point from which originate morbid phenomena affecting the entire organism; the latter, nevertheless, remaining still in a similar state of physical integrity. This is sufficient, I conceive, to explain what is meant by organic structure; besides, this expression, applied to the animal system, has in itself a very limited signification. It indicates merely the general conditions of edification, if I may be allowed such a term, but nothing of what relates to animation.”

All this reasoning, however correct in itself, does not prove that organic lesions may exist without disease being present—nor that a mere change in the dynamic condition of a tissue or organ, independent of all organic lesion, is the sole cause of morbid phenomena. Let it be recollected also, that, notwithstanding the admission made by M. Dubois in the above quotation, that all diseases are dependent upon a morbid change in the vitality of one or more organs, he at the same time denies that any disease can be localized—The change from the normal condition of the organs does not, with him, constitute disease, properly speaking; this consists solely in the abnormal state of the functions, to which the former gives rise.

The organic lesions are divided by our author into congenital vices

of conformation and accidental or acquired lesions. The first are referred to a derangement of what he denominates, after the German physiologists, the *formative force or power*—a power which is supposed “to exist in the homogeneous mass constituting the ovum, and by the agency of which all the elements of organization are produced in it, appropriated, harmonized, and, in a word, submitted to the laws of formation.” This power may possess either an excess or deficiency of energy, or its action may be perverted; and hence there may take place, in the first place, an excess or superabundance of development in the organs of the fœtus; or there may occur an arrest of development in certain organs; or, finally, “the organs may not have the requisite harmony of relation, their respective constitutions may be vicious, and their relative positions may be changed.”

In considering the accidental or acquired lesions, the author first notices the alterations in the composition of the blood—then the modifications which it experiences in the course of its circulation, from derangements of the impulsive force, or from causes altogether physical. This includes the different congestions and *stagnations* of the blood. Next in order, he examines how far the several abnormal secretions are referrible to a disordered action of the eliminative force, or that force by which the materials of the secretions are separated from the mass of the fluids. Finally, the lesions of nutrition occupy his attention, all of which are referred to a morbid action of the plastic force.

That in most, if not in all, the abnormal states of the tissues, their capillary circulation, their secretions, and, perhaps, their nutrition, are more or less altered, is an important pathological fact. We cannot perceive, however, that our acquaintance with the nature and immediate causes of these alterations of function, is in the slightest degree augmented by attributing them to certain hypothetical forces. It is the character and extent of the different modifications which take place in the organic actions and conditions of the affected tissues, the particular circumstances under which they occur, and the various morbid phenomena to which they directly or indirectly give rise, that interest chiefly the pathologist. We regret to say that, upon all these particulars, the information detailed in the work before us is particularly meagre and unsatisfactory. While we are presented with many just and pertinent remarks, the author has failed, in general, to seize upon and present in bold relief, the leading pathological data and deductions connected with this part of the subject.

It is impossible to follow M. Dubois in his investigation of the several species of organic lesions, agreeably to the classification he

has adopted. To attempt an examination of the opinions which he has advanced in reference to this subject, would extend the present review to an unreasonable length. Although he admits that many of the organic lesions are preceded by congestions, or even by a certain degree of inflammation, yet he denies that this is ordinarily the case. From the doctrine which attributes them generally to different grades of irritation affecting the tissues in which they are seated, he entirely dissents, as one insufficient to explain their production, and inconsistent with facts. Occasionally, it is true, his objections have some weight; but at the same time it must be admitted that he has failed, generally speaking, in establishing them by sound pathological arguments—while the manner in which he has attempted to account for some at least of the morbid changes in the tissues, is far less satisfactory than the doctrine which he rejects.

The first section of the work closes with a view of the necroscopic investigation of anatomical lesions, and of the leading therapeutical indications, or general mode of treating diseases; in which latter is contained a series of highly judicious observations, the result evidently of extensive experience and much reflection.

The manner in which the subjects embraced in this section are treated, prove the author to be emphatically a vitalist. All the phenomena of disease are, according to him, vital actions abnormally executed—all changes from the normal state of the tissues and organs are the result of a derangement of the organic functions. Thus far we should be inclined to subscribe to his opinions, without much hesitation; but in carrying out these general views, he may very properly be accused of ultra vitalism. Vital or functional derangements are so generally spoken of as being distinct from organic derangements, that the real seat of the disease in the organs is entirely lost sight of, or, more correctly speaking, denied—a most pernicious error in reference to its effects upon our diagnosis and therapeutical indications. Vitality and organization, function and organ, are so intimately connected, that it is impossible to separate them in our pathological reasoning. All those systems which lead to such a separation, so far from advancing our acquaintance with the character of diseases and facilitating their cure, have produced directly contrary effects.

The second section of the treatise is devoted to a consideration of those “diseases which may affect many systems of the economy.” The diseases arranged under this head form rather a strange medley, more particularly when we consider that the work before us professes to be exclusively devoted to general pathology. The maladies capable of affecting several systems, are, according to M. Dubois, inflamma-

tion, suppuration, wounds, ulcers, gangrene, burns, congelation, fever, poisoning, asphyxia, cachexia, and the verminous affections generally.

The author declines presenting any formal definition of inflammation. He prefers "rather, after the manner of the celebrated Hunter, to investigate with attention the various symptoms which it produces in its effects upon the different tissues and organs. So far, however, as it concerns the derangement of function caused by it in the latter, its investigation is the province of special anatomy. It is the consideration of inflammation in reference to the tissues alone which enters into the plan of the present work. Of what advantage is it," inquires the author, "to repeat continually, that in every inflammation nature reacts, if we are ignorant of the manner in which she reacts, and while there are as many modes of reaction as there are different tissues in the organism?" This is all extremely just, and in strict accordance with the principles of general pathology.

The remarks of M. Dubois upon the general causes of inflammation present nothing which calls for any particular remark, excepting one or two allusions to specific inflammation. We doubt very much whether it can ever be established by conclusive arguments, that, aside from those differences in the phenomena, progress and effects of inflammation derived from its occurrence in a particular tissue, or from its being associated with a diseased condition of particular organs, there is any thing strictly specific in the nature of any of its varieties. We deny, without hesitation, that, properly speaking, there exists a scrofulous, gouty, or rheumatic inflammation. The cultivation of general pathology has reduced the number of specific diseases to a very few, and we have little doubt that hereafter we shall discover, in the peculiar organization or vitality of the parts affected, the cause of the peculiarity of phenomena by which most of the remainder are characterized.

The chapters on the causes and symptoms of inflammation in general, present a tolerably full and correct digest of the leading facts connected with these points. In relation to the febrile symptoms by which inflammation, when of a certain degree of intensity, is almost invariably accompanied—the author, after stating the importance of determining with accuracy what are the febrile symptoms which are produced by local inflammation, that is to say, what are the symptoms of inflammation, properly speaking; and, secondly, what are the symptoms which are primitively febrile, or, in other words, immediately excited by the influence of the morbid causes by which we are surrounded; remarks as follows:

"We acknowledge that it is much more easy to recognise the existence of the first than of the second variety of febrile symptoms. We know that local inflammations, when of a certain degree of intensity, give rise consecutively and symptomatically to phenomena of a general or constitutional character—in a word, to fever. We acknowledge, further, that pathologists formerly neglected, almost invariably, to investigate the morbid condition of the individual organs by which these symptoms are produced, and that they frequently described as primitive fevers, those which are actually symptomatic of local inflammations. It is from this circumstance we are to explain why, formerly, fevers were so numerous, while the occurrence of gastritis and enteritis was, or rather appeared to be, so rare. It is to Broussais, especially, that the honour is due of having directed the attention of physicians to this branch of pathology, by which he has rendered a real service to humanity.

"The closest attention and most minute investigation are frequently necessary to determine the local disease. This arises, no doubt, from the diversity of the functions assigned to the different organs. It is rare that an inflammation affecting an organ whose functions are those of relation, and of sufficient intensity to produce general symptoms, will escape detection, excepting when the brain or its dependencies is at the same time labouring under disease. Such is not the case, however, when the inflammation occurs in a part the functions of which are those exclusively of organic life—frequently an inflammation thus seated remains obscure during its entire course, and it may even be masked by the febrile phenomena which it has itself provoked. The existence of the local disease is in fact often overlooked, until revealed by an autopsical examination after the death of the patient. It should not, however, be supposed, that in every case the inflammations observed after death have been the point of departure of the febrile symptoms. The latter may have preceded the local disease; they may even have played a part in its production.

"By the influence of atmospherical vicissitudes, or of those unknown causes which constitute, in a majority of instances, the medical constitution; or by the influence of causes altogether moral, the entire organism may be primarily modified, so as to produce a febrile reaction; for all its parts are so connected, that nothing is more natural than a general perturbation. The organism, when morbidly affected in its nervous centres, is soon functionally affected in the central organ of the circulation, and in this manner all the phenomena of fever are produced."

While we object strongly to the looseness of phraseology evinced in the foregoing sentences, particularly the last, we have no objection to admit to their fullest extent, the legitimate inferences deducible from the positions set forth in them. That those phenomena, strictly denominated febrile, very generally accompany local inflammations of any degree of intensity, is so well established a fact that no pathologist of reputation has ever disputed it. That, also, what have been denominated primitive or idiopathic fevers, depend very generally upon a local inflammation, notwithstanding the existence of the latter is so frequently overlooked, is a fact that can be established likewise beyond the possibility of dispute. It is equally true, that certain causes acting directly upon the nervous system, and through

it upon the heart, may produce all the phenomena of fever; and if this is what the author means, by "the entire organism being modified," and by "a general perturbation," we admit the correctness of his observation, but not of the terms in which it is expressed. The excitement here alluded to, however decided may be the fever produced by it, will very soon subside, together with its effects, unless some portion of the nervous system, or of some one of the other tissues, becomes the actual seat of irritation, or of well marked inflammation. Hence, we assume it as a pathological axiom, that every fever, properly so called, if not produced, is, at least, kept up by the presence of local disease. We care not whether this be an irritation seated in the nervous centre; an inflammation of the pleura, lungs, stomach, peritoneum, or any other part.

The author's views as to the nature of what he terms primitive or essential fever, differ very materially from those which we entertain.

"It has been for a long time believed," he remarks, "and many pathologists still suppose, that the general symptoms excited by inflammation, are identically the same as the phenomena of primitive fevers; that there is no difference between these excepting in the parts primarily affected, or rather in their mode of production. The first depending upon a local inflammation, while the second are immediately excited in the organism by general causes. This position, when carried out to its full extent, is evidently erroneous. Without doubt, there is considerable analogy between the symptoms peculiar to that form of primitive fever, denominated inflammatory, and those of traumatic fever; but the analogy goes no further. We are not to suppose that the febrile symptoms, produced by a decided local phlegmasia, can assume the *typhoid* form, and still remain the symptoms of simple inflammation. Whatever may have been the origin of the febrile phenomena, whether they have or have not been produced primitively by inflammation of some organ, the moment the fever assumes the *typhoid* form, other elements enter into this new morbid condition than that of inflammation. We must admit, it is true, that a *typhoid* fever may, in certain cases, commence with the symptoms of an inflammatory reaction. We cannot deny, that in other instances, a local inflammation may have produced the primary symptoms, and that on opening the bodies of patients who have died in the course of a *typhoid* fever, evident traces of inflammation in the organs may be detected. But what do these facts prove? Do they prove that the phenomena of inflammation are alone sufficient to constitute a *typhoid* fever? By no means. They merely prove that in subjects predisposed, a severe local inflammation may give rise to a condition of things very favourable to the occurrence of fever of a *typhoid* character—that such subjects, when labouring under an inflammation sufficiently intense to excite febrile symptoms, may esteem themselves very fortunate should they experience no attack of this form of fever, and finally, that the presence of the latter does not necessarily imply that no visceral inflammation exists. No one asserts that in *typhoid* fever there is no inflammation; the coincidence of the latter has been admitted; it has even been acknowledged that it may have an agency in the production of the *typhoid* phenomena; but it has been maintained, and very cor-

rectly, that the production of these phenomena cannot be referred solely to the existence of such inflammatory lesions."

The important pathological question, in regard to the nature of fever, which has of late years been so extensively discussed, is very incorrectly stated in the foregoing sentence. So far as we are aware, no one has ever advanced the opinion that the prominent symptoms of all those diseases, ranged by nosologists under the head of idiopathic fevers, are dependent upon a mere increased excitement of the general circulatory system, caused by a local inflammation. It is acknowledged on all hands, that in the diseases referred to, there occur other morbid phenomena than acceleration of the pulse, increased heat of the surface, and a hurried respiration. The fact is, the term fever, which ought to be confined strictly to designate the latter phenomena, has been applied by medical writers to designate a series of very complex symptoms, of which the febrile excitement forms often the least important part. The real point in dispute is, whether the affections, known by the name of idiopathic fevers, depend upon some mysterious modification of the entire organism, unconnected with local disease, or whether all the phenomena by which they are characterized, may not be traced to a diseased state of one or other of the tissues entering into the composition of certain organs. This latter doctrine is maintained by the physiological school of pathologists—and the facts and arguments in its support, are, in our opinion, conclusive. We do not propose here to enter into an investigation of the phenomena which characterize those fevers the author has referred to, under the denomination typhoid; phenomena, upon the true character of which, however, scarcely two pathologists can be found to agree; yet we may remark, that the very fact, admitted by M. Dubois, that these phenomena may, and we may add, very often do occur, in connexion with the general febrile excitement produced by local inflammations, is sufficient evidence that there is nothing specific in the typhoid phenomena; but that they are capable of being excited at least indirectly by the inflammation of a single tissue, when this is sufficiently intense to produce disease and consequent disturbance in the functions of the more important organs of the system. That local inflammations of the most intense grade do often occur, without giving rise to typhoid symptoms, is no evidence that the latter are independent of the local disease—all the phenomena of inflammations are modified, not only by the different tissues and organs in which the latter occurs, its greater or less degree of intensity, &c., but also by the predisposition to disease of different parts of the organism. In investigating the pathology of such complex diseases, as are many of

the fevers of the nosologists, these facts should be kept constantly in mind. We very often forget that from a variety of circumstances, of the nature of many of which we are still ignorant, organs not primarily affected, may, in the course of the disease, become the seat of morbid action, and consequently, that, in its different stages, it may present very dissimilar phenomena; the whole of which are, nevertheless, strictly speaking, a series of morbid results, dependent primarily upon a local inflammation of very limited extent.

The author's remarks upon the *sthenic*, *asthenic* and *mixed* forms attributed in different cases to the febrile symptoms produced by local inflammation, are in entire accordance with our own views.

"Whenever very decided febrile symptoms occur—in other words, a full and frequent pulse, accelerated respiration, considerable heat of the surface, great thirst, flushed countenance, brilliant appearance of the eyes, &c.; these phenomena are attributed to an exuberance of strength, and the form of the fever is said to be decidedly *sthenic*. But to constitute the *asthenic* form, has a directly opposite condition been demanded? that is, a feeble and slow pulse, diminished frequency of respiration, and coldness, more or less intense, of the surface. No—for it was perceived that these phenomena might, it is true, indicate *asthenia*, but not *fever*. It is not, in fact, an *asthenic* condition that has been sought for, but a condition of things different from that set down as *sthenic*; which has in some degree given support to the opinions of those who deny altogether the notions of *asthenia*. Thus a fever characterized by a frequent, small and contracted pulse, black tongue, inanimate countenance, subsultus tendinum, &c. has been described as *asthenic*. This sufficiently proves that we cannot attribute to inflammation the property of exciting febrile phenomena, of which the form is sometimes *sthenic*, and at others *asthenic*. With respect to the form denominated *mixed*, we remark in the first place, that even admitting the explanations of those who contend for its existence, it is not, in truth, *mixed*, for a *mixed* form, relatively to the *sthenic* and *asthenic*, would be actually the normal or healthy condition. The person who is neither too strong nor too weak, whose pulse is neither too quick nor too slow, whose respiration is neither too frequent nor too infrequent, is, in fact, in perfect health. But the *mixed* form of fever has been differently described. It has been said, that in these cases the first period of the fever is inflammatory and *sthenic*, while the last is typhoid, or *asthenic*. In reply to this assertion, we assert that here there are two distinct periods, or rather two successive diseases."

In regard to what are usually enumerated by pathologists as the *terminations* of inflammation, for example, adhesion, suppuration, ulceration, effusion, gangrene, &c., M. Dubois very properly remarks, that in the majority of cases, it is not true that the inflammatory action ceases upon the occurrence of the above phenomena; many of them are, in fact, intimately connected with the presence of a certain grade of inflammation. In place, therefore, of being ranked among the terminations of the latter, they should be considered as distinct morbid conditions, occurring in parts which are the seat of inflamma-

tion, and produced by the latter. The only real termination of the inflammatory process, according to our author, is in resolution.

In the chapter devoted to the consideration of the act of suppuration, we are furnished with a very correct description of its leading phenomena, interspersed with numerous remarks, which, though possessed of little novelty, are, in general, sound, and of a practical bearing. With M. Louis the author would seem to consider the production of pus so distinctive a feature of inflammation, properly speaking, as to deny the inflammatory character to all diseases in which it does not occur. He has, in so doing, overlooked entirely the modifications in the phenomena, as well as in the progress and effects of inflammation which result from the difference in the structure and vitality of the tissues in which it occurs. It affords a strange comment upon the views of M. Dubois, just alluded to, when we find him subsequently, more than once, adverting to the pathological fact pointed out by Bichat, that in inflammations of the fibrous tissue suppuration never occurs.

If our space would admit of it, we should be inclined to enter into an examination of the hypothesis, adopted by our author from the older pathologists, that hectic fever is in every instance produced by the absorption of pus. We are persuaded this hypothesis will not be found to be very clearly established, when an investigation is made of all the circumstances under which the occurrence of hectic fever takes place. We believe it will be discovered, that in certain instances the presence of well defined hectic fever is unconnected with any evidence whatever of the existence, much less of the absorption, of purulent matter.

The remarks of the author in relation to wounds, ulcers, gangrene, &c., are, with few exceptions, in accordance with the opinions of the most recent and authoritative observers.

M. Dubois proceeds next to the consideration of fevers in general. It is not our intention to enter into a detailed examination of the doctrines advanced by him in relation to this highly important but very debateable subject. We have already noticed cursorily the author's views of the pathology of this class, as it is termed, of diseases. Admitting, with the majority of modern pathologists, that a large number, at least, of febrile diseases are dependent for their production and continuance upon local inflammation, more or less extensive, and of different degrees of intensity, he nevertheless still maintains that there are fevers of a particular character, which are altogether independent of local disease, and which consist in a general reaction of the organism, produced by causes which act directly upon the ner-

vous centres and the heart. The correctness of this hypothesis, the author has attempted to establish by an examination of the causes, phenomena, progress, and anatomical lesions of simple continued, intermittent, typhoid, yellow, and the other fevers described by systematic writers. How far the phenomena, connected with these, justify the general conclusions adopted by M. Dubois, as to the existence, character and mode of production of idiopathic fevers, must be left to the reader to decide, after an attentive perusal of the author's arguments. So far as our own opinion is concerned, we have no hesitation to say, that notwithstanding the dogmatic and often exulting tone which the author has assumed in this portion of his treatise, we are under the necessity of calling in question the correctness of much that he has advanced as facts, and to deny the legitimacy of many of his conclusions, even admitting the accuracy of his premises. That a fever of any duration can exist without the presence of local disease, we absolutely deny. We have already observed, that the fevers of nosological writers are not to be viewed as simple, but as very complex diseases—often, indeed, they may, with some degree of propriety, be said to consist in a succession of diseases of very dissimilar character. The only manner in which their pathology can be investigated with any hope of a profitable result, is by carefully noting from the very onset of the malady until its termination, the different organs that are morbidly affected, the order in which they become attacked, the nature, extent and progress of the disease in each, and the modifications produced in the general phenomena by the transmitting or extension of the local disease from one portion of the organism to another.

The ensuing chapters treat of the different species of poisoning and of asphyxia. Upon the latter, the observations of M. Dubois are particularly interesting, and deserving of an attentive perusal.

The next subject treated of is that class of diseases which the author denominates cachexies. These he describes as affecting at their commencement, and, for the most part, consecutively, "several systems of the animal economy."

"In these every thing is *material*, all is a result or effect; it is not, therefore, to a series of morbid actions that our investigations are to be principally directed, but rather to the abnormal condition of the parts affected. Thus the cachexies do not in reality constitute, of themselves, diseases; it is only when they excite reaction that they really acquire this character."—"In modern times, the denomination cachexy has, by some, been attempted to be restricted to that period of disease when the infection has become general; when the alteration of the tissues is, to a certain extent, universal. Thus, according to Bayle, to constitute a cancerous cachexy, it is necessary that the cancer, having arrived at a certain grade, should occasion, in the vital properties, in the constitution, and in the func-

tions, a derangement, giving rise to a particular alteration in the colour of the skin, to emaciation, general debility, sometimes hectic fever, &c. Others have confined the term cachexy to those cases in which there exists a vitiation of the fluids, producing infection throughout the system. By us the term is used in a more extensive sense. We by no means deny that in cachexy the fluids participate in the morbid condition of the economy. These affections favour more than any others the humoral doctrines; the exclusive vitalists have never been able to explain their phenomena in a satisfactory manner. We do not conceive it to be necessary, however, that the vitiated condition of the nutritive process should have arrived at its final stage in order to constitute a cachexy; it is sufficient that there exists a tendency to a depraved nutrition and to a vitiation of the fluids."

"We conceive that the word cachexy should be employed to designate, in a general sense, that condition of the animal economy in which the general functions, and particularly the nutritive, are deranged, in consequence of a special vice, whether the latter consists in an abnormal condition of the fluid, or results, primarily, from some morbid cause acting upon the vital forces, and especially those which preside over the nutritive and secretory processes."

According to the author, there are four diseases in which this condition is very fully evinced; namely, syphilis, scurvy, scrofula and cancer. These affections consist in a vitiation of the fluids, and a disorganization or rather a morbid alteration of the organic elements of the tissues of the body, involving finally every portion of the organism. This change in the condition of the tissues does not, however, if we understand the author correctly, constitute, properly speaking, disease, until, either in consequence of the progressive disorganization of the parts affected, or of the reaction produced in the neighbouring or remote organs, the functions of these or of the organism generally, become deranged.

But, it may be asked, where are we to look for the first link in the chain of morbid causation giving rise to this vitiation of the fluids and morbid nutrition of a single or several portions of the body?—Does it depend upon derangement of the digestive function, upon imperfect chylification, or upon defective hæmotosis? If so, how does it happen that all the parts of the body are not affected simultaneously, or in rapid succession, instead of the disease, as is the case in some at least of the cachexies of our author, remaining confined, often for a very considerable period, or even during their whole course, to a single tissue or organ, and continuing for months, perhaps years, in apparently a quiescent state? In place, therefore, of referring the vitiation of nutrition to a general cause, should we not seek for it rather in some local cause, disturbing the organic functions of the parts successively affected? Finally, if all the cachexies depend upon one general cause, in what manner are we to account for the striking dissimilarity in their phenomena; is this owing to their occurring in different tissues, or to the nutrition being vitiated in a different manner in each; and, if so,

in what manner is this difference to be accounted for? An abstract of the author's views in relation to the individual cachexies will show how far he has attempted to solve these important queries.

Syphilis, which he places at the head of the list, is the result, we are told, of a specific animal poison, introduced into the system, and which invariably produces the same identical series of lesions in the tissues with which it is in contact. Its first effects being to excite a specific irritation, by which the secretions of the part affected are caused to assume the same specific properties with the poison itself. This morbid condition of the solids and fluids, gradually extends itself, by the absorption, we presume, of the secreted poison, throughout the whole organism, unless it be arrested by a specific plan of treatment.

Without entering into any dispute as to the specific or non-specific character of the irritation produced by the venereal virus, it is evident, from the author's own admission, that its immediate effects are, strictly speaking, local. And any one who will take the trouble carefully to analyze the symptoms and watch the progress of the disease, will, we are persuaded, be convinced, that the changes which take place in the organic condition, together with the altered secretions of the parts affected, are the result of inflammation, and that the propagation of the disease to different and remote tissues, is effected in the same manner as the propagation of other inflammations, and not by the derangement of the general nutrition of the system, and the vitiation of the entire mass of the fluids.

The causes, symptoms and progress of scurvy, afford a more striking illustration of the general views of the author in relation to the pathology of cachetic diseases than either of the others which he has referred to this class. Produced by a defective diet, a damp, stagnant, and vitiated state of the atmosphere, confinement, and the influence of the depressing passions generally; presenting as its prominent and characteristic symptoms an altered state of the blood and other fluids, and apparently a tendency to dissolution in the solids; a derangement of the nutritive process throughout the entire organism, would very naturally suggest itself as the most plausible explanation of its pathology. And yet, there are very formidable difficulties attending this mode of explanation. The rapidity with which the more serious symptoms of scurvy disappear upon the administration of a few drachms of vegetable acid, after placing the patient upon an improved diet and exposing him to the influence of a dry and pure atmosphere, can scarcely be accounted for by presuming that under the influence of these agents the nutrition of the whole body has become completely changed, and the solids and fluids entirely renewed.

The scrofulous cachexy, as M. Dubois terms it, in which he affirms after Baudelocque, that every portion of the body is composed of elements of a vitiated character; that the whole edifice is constructed of bad materials, results from the action, we are told, of nearly the same external causes as scurvy; residence, namely, in situations where the air is surcharged with humidity, and not sufficiently ventilated; which are, to a very considerable extent, excluded from the influence of the solar rays; deficiency of wholesome food, and too little bodily exercise. These morbid causes in place, however, of producing the same organic changes as those which take place in scurvy, cause a special or specific depravation of the nutritive process, indicated by phenomena of a very distinct character.

"Before, however, any serious disorder occurs in the tissues of the organs, there is developed a peculiar constitution, denominated scrofulous; the nutrition not being yet sufficiently depraved to produce real organic lesions, but it is, nevertheless, so changed as to give rise to a special temperament, in which every thing indicates an organic predisposition to the disease."—"The persistence of the same external causes, by modifying, more and more, the composition of the solids and fluids, renders their condition incompatible with health, and scrofula is finally developed. We see all the tissues become successively diseased; all the secretions become more and more changed, until the morbid state of the organs gradually augmenting, terminates finally in their complete destruction, and in death."

According to M. Dubois, scrofula commences in a vitiation of the fluids, the solids being affected secondarily. But he has not even attempted to prove that such vitiation of the fluids exists; that, according to the definition of M. Baudelocque, in any one instance there occurs a vitiated nutrition of all the tissues of the body; while every physician is aware that, in numerous cases, the disease is confined to a single gland, or to the tissues of a single organ. Neither has he attempted to explain why, if scrofula commences in a defective hæmatisation and consequent morbid change in the fluids, it should develop itself almost exclusively in certain organs, leaving others perfectly intact. The doctrine of a specific vitiation of the nutritive process, however convenient a resort for the solution of the above and other difficulties, cannot be admitted as satisfactory, until we are placed in possession of the facts by which the existence of such specific vitiation is clearly established. Without entering into an examination of the true pathology of scrofulous diseases, we may be permitted to say that, in our opinion, the author has not succeeded in establishing the correctness of the views which he has advanced. He has indulged very fully in hypothesis, but there is a want, in the whole of his remarks upon the disease, of that close analysis of symptoms, and a comparison of these

with the morbid changes going on in the tissues which we had a right to expect in a work on general pathology.

In reference to cancer, which is the last of the diseases included among the cachexies, we are told, that exposure to a cold, humid, and stagnant atmosphere, the use of unwholesome food, want of sufficient exercise and the indulgence of the depressing passions, produce, in persons of a certain age, and especially females, by their morbid influence upon the nutritive process, a specific morbid condition of the solids and fluids which constitutes the cancerous cachexy; and which, though differing in certain important particulars from the scrofulous cachexy, has yet many points of resemblance with the latter, as well from the similarity of its causes, as from the fact, that persons attacked with cancer have, during infancy, been almost invariably affected with scrofula.

The local phenomena which manifest themselves in cancerous subjects are, our author admits, very generally developed in consequence of some violence inflicted upon the part. The effect of this violence being ordinarily an irritation, is the reason, he conceives, why so many pathologists have fallen into the error of considering the cancerous affection to be, if not one of the forms, at least one of the terminations of inflammation. He, however, remarks that—

“The principal and true causes of the cancerous cachexy act upon the organism generally, and are debilitating rather than stimulant in their effects; that the local or occasional causes do not act in virtue of an irritating property, but only because they produce a morbid condition of some tissue predisposed to disease. If the system had not already been reduced to a cachectic state, these occasional causes would be productive of no effect, or at least their effect would be merely the production of a simple inflammation and nothing further.”

Notwithstanding the positive manner in which M. Dubois lays down as unquestionably true, this explanation of the pathology of cancer—we seek in vain for a detail of the facts by which its correctness is established, or any attempt to prove its validity by an analysis of the phenomena exhibited in the course of the disease, and a close investigation of the physical and organic changes occurring in the affected tissues from its commencement until its termination.

Four morbid affections occurring in certain parts of the organism are referred to very nearly the same remote or external causes. All are presumed to consist essentially in a vitiation of the fluids, and an abnormal state of the nutritive process throughout the body; and although differing essentially in their symptoms, progress and results, we have no other explanation afforded us of this dissimilarity than a presumed specific difference in the abnormal states of nutrition upon which they respectively depend. If these are to be received as ra-

tional views of pathology and such as are adapted to improve the practical branches of our profession, we confess that we shall be under the necessity of studying the science anew, and deriving our conclusions from data other than those upon which we have heretofore depended.

A chapter on verminose affections terminates the second section of the treatise. The third section comprises the diseases of particular tissues. In this a nearer approach is made to what we conceive to be the legitimate subjects and proper arrangement of a system of general pathology, than is displayed in either of the preceding sections. The manner, nevertheless, in which the author has thought proper to treat of the affections of the individual tissues is, we conceive, in many particulars decidedly vicious.

The different pathological states of the cellular tissue are those first treated of. The chapters on phlegmon, phlegmonous inflammation, and abscess, call for no particular remarks. Those on œdema and anasarca are, however, highly interesting. The author's views in regard to the nature of these affections correspond with the observations of the most authoritative of the modern pathologists.

The active or acute form of serous infiltration of the cellular tissue, whether local or general, is referred invariably to a simple inflammatory condition of the tissue, the immediate effect of which condition is such an augmentation of the secretion of fluid into its cells, as to prevent the absorbents removing it with sufficient rapidity. The passive or chronic form of the disease results most commonly, in the opinion of M. Dubois, from the existence of some impediment to the free return of the blood by the veins, or to the transmission of the lymph through its proper vessels, which gives rise to a marked diminution, if not a total interruption of the absorption of the serous fluid secreted within the cellular tissue.

On induration of the cellular tissue in new-born infants, the author has presented some very excellent remarks. He denies, however, that this peculiar affection is ever dependent upon a sub-inflammation of the tissue or of the lymphatic vessels. He attributes it invariably to an imperfect hæmatisis and a consequent increased plasticity of the serous fluids.

"These fluids, in fact, preserve, even after death, such a tendency to coagulation, that, according to M. Rochoux, they become moulded into cylinders by the vessels in which they are contained. M. Chevreul has submitted the serum of the blood of infants affected with this disease to a very accurate analysis, and has found it to contain a very large proportion of a yellowish green colouring matter. The cellular tissue is in every instance dense and engorged with fluids, which have so strong a tendency to become concrete, as to escape with difficulty when

incisions are made into the tissue. Sometimes, however, the latter is found distended by a serous fluid to a very considerable extent, while in other cases the tissue is dry and lardaceous. The viscera, likewise, present peculiar alterations. It has been observed that the whole of the nervous system is engorged with blood, as well as the parenchyma of the lungs, especially at the most depending portions of the latter. Every thing, indeed, indicates, that during the lifetime of the patient there existed a languid circulation of the blood throughout every portion of the body. There is a stagnation of blood in the veins; the right cavities of the heart are enormously distended, the foramen ovale frequently remains open. The hepatic system is equally the seat of a stasis of blood; but the tissues of the liver are unchanged. M. Rochoux thinks, without, however, giving the reasons upon which his opinion is founded, that the lining membrane of the gall bladder and of the hepatic ducts, is constantly the seat of a species of inflammatory affection. The spleen, as might be supposed, contains a large amount of blood."

As the induration of the cellular tissue of new-born infants is a disease as yet but little understood, we have presented the foregoing account of the lesions discovered after death—convinced that it cannot fail to be interesting to our readers. How far the opinions of M. Dubois, in regard to the pathology of this affection correspond with facts, must be left to future and more extensive observations.

Passing over the remaining affections of the cellular tissue, we come next to those of the nervous system. The author treats first of inflammation of the central portions of the latter. His remarks upon this subject are upon the whole extremely correct, but of far too general a character. The causes, phenomena, and effects of the inflammatory conditions of the brain and spinal marrow are merely alluded to, while nearly all the important details connected with the subject, and essential to a proper understanding of it, are omitted. The same remarks are also true in regard to the succeeding chapter, which treats of inflammation of the nerves; M. Dubois, however, presents us with an interesting sketch of the anatomical lesions consequent upon neuritis.

The following are given by the author as the distinctive phenomena of neuralgia and neuritis.

"In neuralgia the pain occurs suddenly and frequently is of such intensity as to be scarcely endurable. It subsides as suddenly, but continues to recur, after a longer or shorter interval, with a most provoking obstinacy. The pain in neuralgia is unattended by either swelling of the part or any very decided redness; it is often relieved by pressure, and, besides, is of a very peculiar and decided character. Sometimes it resembles an electric shock, a burning heat shooting, as it were, through the affected parts; in other cases, it consists simply in a sense of formication, or in a most intolerable burning. The pain commences at a point and follows the minute ramifications of the diseased nerve. Neuritis, on the contrary, is developed gradually, like other inflammations; the pain is continued and seated along the course of a large nervous trunk; it is augmented by the motions of the part, and is accompanied by some degree of swelling and increased

heat. Finally, symptoms of a general reaction, indicated by augmented quickness and frequency of the pulse, heat of surface, thirst, &c. become developed as soon as the local disease acquires a certain degree of intensity. Frequently, however, it is somewhat difficult to distinguish simple neuralgia from inflammation of the nerve by the symptoms alone; in neuritis the tumefaction of the part is not always appreciable, while in *neuralgia* (the author has it *neuritis*) pressure is often productive of extreme pain; but one circumstance should always be borne in mind when making up our diagnosis, which is, that inflammation almost always attacks the sciatic nerve, seldom the median or cubital, (Martinet,) while neuralgia attacks more frequently the branches of the trigeminal nerve. Besides, when the latter does affect the sciatic nerve, it is invariably intermittent; sciatic neuritis, on the contrary, is continued, while the pain is exasperated by the act of walking; the extremity often acquires a livid hue, its veins are swollen, and finally it becomes atrophied."

The chapter on softening of the central portions of the nervous system is altogether unsatisfactory, so far, at least, as relates to the pathology of this affection. The author admits, that, in many instances, the softening is consequent upon an inflammation of the nervous matter; but, in other cases, he asserts, that it occurs under circumstances altogether opposed to the existence of inflammation, and without ossification of the nutrient vessels of the part. Instead of a stimulation, there is rather, he observes, a debilitation of the tissue, as in the case of white softening, with discoloration or atrophy of the brain, &c. In other cases the softening would appear to him to be owing, in some degree, at least, to the solvent action of effused fluids, and finally, in certain cases, it is to be viewed, he maintains, merely as a cadaveric phenomenon. This may be all very true; the author, however, has produced no fact in its support.

The author's remarks on induration of the central portions of the nervous system, though extremely brief and of a very general character, are much more interesting and satisfactory than those on the preceding affection. Admitting, as he could not well avoid, from the numerous facts accumulated by the industry of recent observers, all of which go to establish the fact, that induration of the nervous tissue is frequently the result of inflammation, M. Dubois still insists that this lesion is often produced by special causes, altogether independent of inflammation. In individuals, he remarks, who are exposed to the influence of the different preparations of lead, a general induration of the nervous centres has been detected, unaccompanied by any trace of irritation, either in the organs themselves, or in their envelopes. According to the author—

"The symptoms arising from induration of the nervous centres may be divided into two very distinct series. 1st. Acute inflammatory symptoms. These depend almost invariably upon general induration, or accompany partial induration with

inflammation of the tissue. 2nd. Various symptoms, of a spasmodic character in some cases; apoplectic in others; intermittent, chronic, &c. These are connected with partial indurations; indurations which Lallemand denominates cicatrices, and which, we believe, may act as foreign bodies, and, in this manner give rise to accidents of a greater or less degree of severity."

The views of the author in relation to effusions of serum or dropsies within the nervous centres are perfectly sound, and accord with those of the most eminent modern pathologists. His remarks in relation to effusions of blood or hæmorrhages of those organs, though in general correct, are by no means so satisfactory.

The chapters which follow, treat of wounds and alterations of structure of the nervous system; in these we find nothing which calls for any particular comment.

Having thus considered the several abnormal states of what he denominates the central and peripheral portions of the nervous system, M. Dubois enters next into the investigation of the *neuroses*, or, in other words, those groups of morbid phenomena which have been erected by nosological writers into so many specific diseases of the nervous organs. While we admit that such groups of symptoms do frequently present themselves, and that to a certain extent they originate from lesions of the brain and spinal marrow, we must confess that we have not much respect for the plan pursued by the author in their investigation; it is neither adapted to a system of general pathology, nor calculated to lead to any important practical results.

In treating of the morbid condition of each portion of the nervous system, and we should be inclined to subdivide that system to a much greater extent than has been done by M. Dubois, all the phenomena; whether primary or secondary, resulting from the several lesions to which it is liable, should be clearly and methodically stated by the general pathologist. It is the province of special pathology to consider these phenomena in the groups in which they generally present themselves, to enter into their analysis and to refer each to the particular lesion by which it is produced. The same thing is true of many of the neuroses, as was noticed when speaking of the fevers of nosologists; that is, they are extremely complex diseases, originating often in the abnormal state of very different organs from those subsequently affected.

The following is the author's definition of the neuroses: a class of affections, we may remark, to explain the peculiar phenomena of which has, at almost every period of our science, exercised the ingenuity of physicians, and upon the real character of which, it is only very recently that any degree of light has been shed, and this has been the conse-

quence of a closer investigation of the structure and physiology of the different portions of the nervous system, and a more accurate examination of their several morbid conditions.

"There occurs," remarks M. Dubois, "in the nervous system, a very peculiar order of diseases, denominated neuroses; that is to say, diseases which consist frequently in simple organic actions abnormally executed. These abnormal actions may be referred to two distinct classes. The first, including lesions of sensibility, the second, lesions of contractility. These lesions have been termed neuroses, because, on the one hand they are to be referred to the nervous system, and, on the other, they do not ordinarily give rise to any very decided change in either the circulation, nutrition, or secretions; that is, they do not always produce a change in these functions of the organism to an extent sufficient to cause an alteration in the anatomical condition of the affected tissues. Thus, when in consequence of an acute pain, a local or even general reaction occurs, the local excitation does not amount to inflammation, and the general excitement abates with the pain which occasioned it. When the neuroses are accompanied by an altered state of the secretions, this is confined solely to those secretions which are discharged externally; it is also temporary, and is never connected with an abnormal state of the tissues. When, finally, there is alteration of nutrition, it affects the entire organism, producing a general emaciation, which is at first unattended with a change of organization in any of the tissues. This, however, is not invariably the case throughout the entire course of these diseases. It is impossible that the occurrence of repeated lesions of sensibility and contractility should not finally cause a lesion of the tissues. This will be readily understood, when it is recollected that the normal execution of all the functions of assimilation, demand a particular mode of sensibility,—now, the sensibility being so frequently altered in the course of the neuroses, must finally give rise to permanent lesions of the circulatory, nutritive, and secretory functions. Every disease, is in fact, at its commencement, a neurosis. The only pathological difference which exists between the affections denominated organic and those termed nervous, is that, in the first, the nervous period is frequently of such short duration as to be inappreciable, being followed instantaneously by the organic lesion, while, in the second, the patients complain of morbid sensations, and we observe in them abnormal movements long before we can detect any material change in the tissues."

The definition of the neuroses presented in the commencement of the above extract is completely modified in its conclusion. The author has himself shown that this class of affections, so far from being entirely unconnected with any local disease of a decided character, are sooner or later accompanied, almost invariably, by very important lesions of structure.

In the class of neuroses the author includes, 1st, lesions affecting the sensibility of the nervous system; cephalalgia, hemicrania, neuralgia, &c. 2nd. Convulsive affections, including epilepsy, chorea, hysteria, tetanus, hydrophobia, delirium tremens, &c. &c. 3d. Mental diseases; idiocy, mania, monomania, dementia.

It is very evident that the morbid phenomena characteristic of the foregoing maladies are immediately dependent upon an abnormal state

of the functions of the nervous centres, and this fact is sufficient evidence to the physiological physician that the latter organs are themselves the seats of disease. In many, perhaps in most of the neuroses, as they are termed, it would be incorrect to say that at their commencement the morbid state of the brain or spinal marrow amounts to genuine inflammation, or consists in an evident change in the texture of the affected organ. It may be that the derangement of the functions of the nervous centres is merely symptomatic of disease affecting some remote organ, and so intimately dependent upon the latter as to disappear immediately when it is removed. It is unquestionable that the nervous centres may be subjected to a degree of irritation, for we must persist in the use of this term, notwithstanding the objections made to it by M. Dubois, which, in numerous instances, may exist, or recur for a certain length of time, without giving rise to any evident change in the organization, but sooner or later we know that such a change, to a greater or less extent, does occur. And unless we are prepared to reject a series of observations of unquestionable authority, we must likewise admit that the phenomena of certain of the neuroses are, occasionally, either immediately dependent upon well marked inflammation of particular portions of the brain or spinal marrow, or are the result of changes of structure in these organs produced by inflammation. The attempt to ascribe any class of diseases to mere functional derangement of the organs, in the sense in which this term is employed by a certain class of medical writers, is founded altogether upon erroneous views of pathology.

The remarks of the author on cephalalgia are vague and unsatisfactory. He restricts the term cephalalgia to pains seated in the nervous centres, and independent of any appreciable organic lesion. He admits, that, in many cases, however, cephalalgia is symptomatic of various affections of the brain itself, or of some other organ more or less remotely situated, and notices the influence of disease of the stomach in its production. Many persons, he observes, anticipate the occurrence of cephalalgia the moment they experience a derangement of their digestive functions; but, in other cases, the disorder of the stomach is, he asserts, consecutive; the pain of the head first occurs, and is succeeded, sooner or later, by loss of appetite, nausea, and even vomiting. That, even under the last mentioned circumstances, the cephalalgia is not symptomatic of gastric irritation, the author has failed satisfactorily to prove.

Upon the pathology of the neuralgia, the subject next in order, the author has not succeeded in throwing any additional light.

Into the consideration of the convulsive affections he enters at considerable length.

"We do not propose," he remarks, "to treat separately of *convulsions*, because, as has been correctly observed, they are merely symptoms which accompany a variety of diseases, and to treat of every symptom as a separate affection would be to reduce medicine to a genuine chaos. But, as in many diseases, the most striking phenomenon consists in the sudden and involuntary contraction of one or more muscles, continuing for a longer or shorter period, and often attended with pain, we have denominated such affections convulsive, and have referred them to the neuroses, because their invariable characteristic consists in the abnormal state of muscular contractility just referred to. From this class, as will be readily conceived, we have separated arachnitis, encephalitis, and all those lesions of the nervous centres, in which, independent of the convulsive phenomena, there are, likewise, alterations of tissue, which give rise to other symptoms."

Had we sufficient space to allow us to enter into an examination of the leading pathological facts, established by repeated observations, which relate to those convulsive affections classed by M. Dubois among the neuroses, that is, diseases in which the nervous functions are disturbed without any appreciable change in the condition of the brain or spinal marrow, it would be easy to show that the opinions of the author in relation to these affections are to a very great extent purely hypothetical. That in many at least of the convulsive diseases there is a decided irritation, accompanied with very evident afflux of fluids, of some portion of the nervous centres, amounting often to positive inflammation, and giving rise very generally to changes in the physical condition of the parts in which it is seated is incontestibly true. That such is the case the author has, in fact, himself indirectly acknowledged. Speaking of the causes of infantile convulsions, he remarks:—

"Most frequently the process of dentition excites towards the brain a dangerous *molimen*—in other cases it is a reaction, depending upon the state of the digestive organs; the presence of intestinal worms acts then upon the nervous system: often a state of plethora may become the occasional cause of convulsions."

"Females of a very plethoric habit are particularly predisposed to *eclampsia*, and especially such as are pregnant for the first time. M. Desormeaux adds, that we may also include among the causes of this affection, all those circumstances which dispose the brain to become the centre of fluxion, and which determine the blood with increased impetus towards that organ. These causes had been pointed out by M. A. C. Baudelocque, in his inaugural dissertation."

So constantly, indeed, are the convulsions of infants and puerperal females preceded and accompanied by symptoms of irritation of the brain, accompanied by an increased afflux of blood to that organ, the fact of which is further established by the nature of the remedies which experience has shown to be most successful in the removal of the affections, that we were surprised to find them included by M.

Dubois in his class of neuroses. That after death, in many cases, no evident marks of an increased turgescence of the encephalic vessels can be detected, is no positive evidence that such turgescence did not exist previously.

The chapters on epilepsy, chorea, and catalepsy, present a very excellent, but very condensed, history of these affections, and of their remote and exciting causes. In regard to their pathology, however, the author contents himself by stating that they all depend, so far at least as regards their convulsive phenomena, upon some inexplicable derangement of those functions of the nervous system which preside over muscular action, independent of irritation or inflammation of the brain, or spinal marrow. The mass of facts accumulated in regard to the morbid anatomy of these diseases, by the most accurate observers, and the legitimate inferences to which such facts appear to lead, are entirely overlooked by the author, or set aside as altogether irrelevant or inconclusive.

We had so frequently heard the monograph upon hysteria, published about two years ago by M. Dubois, referred to in the highest terms of commendation, that we expected, in the chapter of the present treatise devoted to that disease, to meet with some new and interesting views in relation to it. But though we are there presented with an admirable description of its symptoms, the order of their occurrence and cessation, yet, so far as it regards the pathology of the disease, we are left, generally speaking, as much in the dark as ever. With the doctrine recently advanced by one or two English writers, which refers the production of hysteria to spinal irritation, and which certainly demands some degree of attention from the facts adduced in its support, M. Dubois appears not to have been acquainted. The following extract will enable the reader to judge of the author's views of the pathology of this affection:

"In hysteria, the *vital power*, sur-excited in one point of the organism, namely, in the uterine apparatus, reacts upon the cerebro-spinal axis. It is this sur-excitation of the vital power which, by its *violent influence*, sometimes exalts the moral faculties, and sometimes suspends the operations of the intellect, exciting sympathetically convulsions of the principal muscles of locomotion. It is it, finally, which frequently exhausts the *nervous influx*, so as to produce a state of apparent death, and frequently gives rise to paralysis and spasmodic retractions, more or less extensive and permanent. In regard to the primitive lesion experienced by the uterus, we have reason to believe that a *simple nervous modification* is sufficient to occasion the majority of the general symptoms, in consequence of the connexions which exist between the uterus and the rest of the economy, and of the *special* and *powerful* nature of the nervous lesion alluded to. The partizans of the theory of irritation do not reason physiologically, (query, does the author?) when they assume the necessity of a chronic gastro-enteritis, or metritis, to pro-

duce the convulsive paroxysms of hysteria; as they must be aware that, in the great majority of cases, inflammation of the digestive organs and of the womb are unaccompanied by any symptom of hysteria: they have been forced to add that to produce the latter, it is necessary there should exist likewise a particular state of the nervous system. This, however, does not remove the difficulty; it remains to be shown in what this peculiar condition of the nervous system consists—but all researches as to this particular have been fruitless.”

We would here inquire whether M. Dubois means to infer that the nature of the “special and violent nervous lesion,” to which he refers the production of the convulsive phenomena of hysteria, has been more clearly determined by observation than that of the “nervous irritation,” by the existence of which those of the physiological school attempt to explain these symptoms?

“It is found,” says our author, “that the uterus, so far from being (*always*) inflamed in hysteria, is not even affected with pain. It is true, that Diemerbroeck, Valsalva, Morgagni, and other writers, state that they have discovered in the bodies of hysteric females, after death, numerous morbid changes in the uterine system; but we may add, that similar diseases have existed without the occurrence of any symptoms of hysteria, while in females evidently hysteric the uterine organs have been found in their normal condition.”

All this is perfectly true; but we cannot perceive in what manner it militates against the truth of the doctrine it is brought forward to oppose.

The proximate cause of tetanus, M. Dubois considers “to be equally unknown to us, as is the nature of that power which causes in the muscles of animal life their normal movements.” He denies explicitly that the disease depends upon irritation or inflammation of the brain or spinal marrow, or of their membranes, or upon any sensible organic change in either.

Hydrophobia he describes as being produced by the insertion into the system of the saliva of a rabid animal; which saliva, being possessed of a poisonous property, causes a lesion of the nervous system, of the nature of which we are entirely ignorant. This lesion is, in the first instance, unattended with any evident organic change in the nervous or other tissues; it may, however, he admits, in certain cases, produce an inflammation, to a greater or less extent, of the brain, spinal marrow, or their meninges, as well as of other organs, but not necessarily or invariably.

We pass over the chapters on nervous tremors and delirium tremens, which brings us to the all-important class of mental diseases.

It is impossible for us to enter fully into the consideration of this copious subject; since to test the accuracy of the doctrines advanced by our author in regard to the causes and character of the various mental diseases, would require us to discuss at some length the physiology

of the brain and the philosophy of the intellectual faculties generally, as well as to notice, to a certain extent, that immense and interesting collection of facts in relation to their pathological conditions, that has been accumulated by the industry of many of the most eminent medical observers. We may be permitted, however, merely to say, that we hold the following propositions to be now fully established, namely:—1st. That all mental diseases, properly speaking, depend upon an abnormal state or condition of some portion of the cerebrum. 2nd. That this condition may be either the effect of causes acting directly upon the brain, or may result from disease existing in other organs, the brain being affected secondarily; and 3d. That the affection of the brain, in many cases of mental derangement, amounts to an actual change in its organic structure.

M. Dubois observes, that he has made a separate class of the mental affections, "because they do not consist exclusively in either lesions of sensibility or of contractility. They are organic acts, but acts of an extremely complex character."

The chapter on congenital idiocy is a very excellent one. The author correctly remarks, that there exist material conditions of the brain, or vices of conformation, which readily explain the non-development of the intellectual powers. The admission that this abnormal condition of the mental functions is dependent upon a material lesion of the brain, will, however, we conceive, remove it from out the author's class of nervous diseases, which, we are to recollect, are unconnected with any evident organic change in the nervous organs. Of this he appears to have been aware, for when speaking of the anatomical lesions existing in cases of idiocy, he observes:

"The neuroses, according to our definition, it is true, consist in certain *morbid actions*, which do not appear to be dependent upon any *permanent anatomical lesion*, but which may nevertheless recur under the influence of certain *anatomical conditions* readily appreciable."—"Many of the irregular manifestations of the mental faculties may be connected with an evident and permanent abnormal state of the intellectual organs."

The whole of the author's remarks upon mania, its causes, symptoms, nature, and anatomical lesions, are embraced in about twelve small octavo pages. It must be evident, therefore, that, however excellent in themselves, they are far too brief and general to present any thing like a full elucidation of this highly important and, at the same time, obscure subject. He attaches, in our estimation, too little weight to the leading facts and arguments adduced by recent observers in relation to the pathology of the different forms of mania. That a disease of such long continuance, and so untractable in its character, and presenting, in its phenomena, evidence of so complete a subver-

sion of the normal functions of so delicate and important an organ as the brain, should consist merely in a change of vitality, unaccompanied by any evident change in the organic condition of the affected part, we should hardly suppose *a priori*, and we find it to be in direct opposition to the evidence deducible from a very extensive series of apparently accurate observations. It is true, the author does not assert formally that such is the case—but from the manner in which he disposes of the autopsical phenomena described by different writers as occurring in persons who have died of mania, it is evident that he considers the traces of disease discoverable in the brain and other organs, as of very little or no importance, in accounting for the production of that disease.

That we are unable to explain why a certain lesion of the brain should produce derangement of the mental faculties, cannot be adduced as evidence that such lesion has no agency in its production. If it can be established that irritation, inflammation, or other abnormal conditions of certain portions of the brain, are very commonly attended by mental derangement, we have arrived at a positive fact in relation to the pathology of the latter, the importance of which, in directing our subsequent investigations into the true nature and causes of the disease, and into the means adopted for its prevention and cure, can be readily estimated.

In regard to monomania, M. Dubois remarks, that—

“In the human mind there exist two kinds of ideas: the one foreign to *self*, and indifferent to the well-being of the individual by whom they are conceived—the other relate to his affections, his mode of existence, and are essential to his present or future happiness. In the normal state of his organism, he occupies himself with the latter more than with the former. When an abnormal state occurs, and he occupies himself with them exclusively, he becomes monomaniac.”

The author divides monomania into several varieties, the principal of which are the hypochondriac, melancholic, suicidal, homicidal, religious, erotic, ambitious, &c. Under the hypochondriacal variety he includes nostalgia, and imaginary hydrophobia.

Hypochondriacal monomania is described as a disease of the mind, characterized by an excessive and constant fear of being the subject of strange and imaginary diseases, or by the strong persuasion that any real disease under which the patient may labour will terminate fatally. In the first period of the affection, there exists, he maintains, no real or organic lesion of the brain or other organs; but, subsequently, in consequence of the patient's attention being constantly and anxiously directed to the condition of his digestive or circulatory organs, every unusual and transient sensation occurring in them being magnified into the symptoms of some serious and fatal disease, his regi-

men being at the same time modified, and a highly improper course of treatment pursued in accordance with those diseased conceptions, the functions of the stomach or heart become, at length, morbidly affected, giving rise at first to the symptoms of gastralgia, or some nervous disorder of the heart, and finally to chronic gastritis, latent or partial pericarditis, hypertrophy of the heart, or other organic change in the digestive or circulatory organs.

"There is nothing, however, to prove the existence, in hypochondriasis, of a cerebral irritation, resulting from a preceding chronic gastritis, as supposed by Broussais and his partizans. Every thing, on the contrary, tends rather to prove that, during the latter period of the disease, such irritations occur but very rarely. After death, we sometimes, it is true, discover organic lesions of the brain and its appendices, but these lesions, which by no means succeed invariably to encephalic irritation, are to be ranked, even when the latter has been the case, among those secondary affections which constitute the third period of hypochondriasis."

Our readers will be able to judge from the foregoing, of the pathological views of M. Dubois in relation to monomania generally, for he remarks that what he has laid down concerning hypochondriacal monomania, is in part applicable to the other varieties.

"In other words, their point of departure is the same; and their symptoms, although very different in character, have a similar connexion or filiation. Their terminations, however, differ; in the greater number of cases, the remaining varieties of monomania eventuate in complete and genuine mania, sometimes even in fatuity."

The consideration of the mental affections concludes with an account of fatuity, or consecutive imbecility of mind, and somnambulism.

The remainder of the treatise is devoted to an investigation of the pathological states of the vascular, serous, muscular and fibrous, cartilaginous and osseous, mucous and cutaneous tissues. Many important and unsettled questions in pathology are connected with the diseases of these portions of the organism, all of which demand a very thorough examination, yet, from the space we have already occupied, we find that we shall be under the necessity of passing them over without notice, and of closing our review with merely a passing comment upon one or two of the subjects included in this portion of the work.

In the chapter on inflammation, as it affects the capillary vessels, we expected to meet, if not with any novel views upon this important subject, at least with a very full exposition of all the facts connected with it. The agency of the capillary tissue in the production of the phenomena of inflammation, has a very direct bearing upon the pathology of an extensive class of diseases, of more frequent occurrence, perhaps, than any other, and therefore demanding a very close investigation in a system of general pathology. But we confess a perusal

of the chapter has disappointed us. The author has done little more than briefly state the differences of opinion which exist among physicians as to the actual condition of the capillaries in a part labouring under inflammation, and the difficulties attending the correct investigation of this particular, for which he is mainly indebted to the work of Dr. Thompson. Few chapters in the present treatise are characterized by a greater degree of vagueness, or containing so few facts calculated to lead to satisfactory conclusions, than the one under consideration.

In the short chapters devoted to inflammation of the serous tissue, and to dropsy of the cavities lined by the latter, M. Dubois has presented a very correct, but at the same time superficial, digest of the present state of our knowledge in regard to these subjects. We recognise as correct the doctrine which refers all dropsies, either to an inflammatory affection of the serous and seroid membranes, or to causes, whether vital or physical, by which the free return of the venous blood from the affected cavities is impeded or prevented.

Rheumatism, according to our author, is a disease proper to the muscular and fibrous tissues. He denies, however, that it is an inflammation, and this chiefly from the fact that suppuration never occurs in the parts affected; the formation of pus being considered by him as the true characteristic of genuine inflammation. When, however, we examine with due attention the exciting causes of rheumatism, the phenomena characteristic especially of its acute stage, as correctly detailed by our author, together with those remedies, generally speaking, which experience has proved to be the most successful in its removal, we can scarcely deny that the disease is an inflammation seated in the fibrous tissue. That this inflammation differs in some of its phenomena and in its effects from inflammation occurring in the cellular, serous or mucous tissues, is very freely admitted; but at the same time it must be remarked, that it does not differ from the latter to a greater extent than phlegmon or pleurisy or pneumonia differs from gastritis, cerebritis, or colitis. The fact, which cannot be too much insisted upon, that the phenomena and results of inflammation differ according to the difference of the organization and functions of the tissue in which it occurs, has been in a great measure overlooked by M. Dubois. Rheumatism is an inflammation strictly of the fibrous tissue; and, as Bichat has pointed out, and our author has fully admitted, inflammation of this tissue never gives rise to suppuration.

We have thus endeavoured to present to our readers a general view of the plan of the treatise before us, and of the views of its author, in
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relation to some of the more prominent subjects which it embraces. We are aware that our notice of the work is, in many particulars, imperfect and superficial, notwithstanding we have extended it beyond the length usually allowed to articles of this kind. This, however, could not well be avoided; it is to be recollected, that M. Dubois has not confined himself to those particulars which fall strictly within the province of a system of General Pathology; but enters likewise into an examination of the nature, causes, symptoms and treatment of the principal groups of morbid phenomena, which constitute the diseases of nosological writers. To do justice to a work of so extensive a character, including subjects so important, and at the same time so copious, upon many particulars in relation to which some of the most distinguished pathologists of the present day are still divided in opinion, would swell our review almost to the same bulk as the work itself.

We have expressed our opinions freely, in regard to the opinions of M. Dubois, whenever we have believed them to be erroneous; and though we differ from him materially in many of his pathological views, and are convinced that in not a few instances he has overlooked or denied the facts recorded by the more recent observers, and in others, has mistaken the legitimate conclusions deducible from such as he admits to be fully established, yet we should be doing gross injustice to him, were we to deny to the work, taken as a whole, a very considerable degree of merit. It contains, unquestionably, a large amount of valuable matter. The author's therapeutical directions, in particular, notwithstanding they are of a very general character, are all of them peculiarly excellent.

D. F. C.

ART. XII. *A treatise on the formation, constituents, and extraction of the Urinary Calculus; being an essay for which the Jacksonian prize for the year 1833, was awarded by the Royal College of Surgeons in London.* By JOHN GREEN CROSSE, Surgeon to the Norfolk and Norwich Hospital, and Lecturer on Clinical Surgery, Member of the Royal College of Surgeons, and Fellow of the Royal Medical and Chirurgical Society of London; Corresponding Member of the Société Médicale d'Émulation of Paris; Formerly Demonstrator of Anatomy in the University of Dublin, &c. &c. "Feci quod potui, non ut volui." Quarto pp. 231, plates 29—London, 1835.

It is a rare and delightful task for the reviewer to canvass the

merits of a work in which there is much to praise, and very little to censure. Such pleasure is ours on the present occasion, in noticing the magnificent treatise of Mr. Crosse. Seldom has the English press presented the profession with donations to the science of Surgical Pathology, so rich and important as is the monograph before us. The author whose opportunities for observation and previous research have been evidently very ample and industriously improved, apologizes in his preface to the essay for any errors observable in the arrangement of the facts, by stating that the shortness of the time allowed for the execution of his labours, and the pressure of private and public occupations, made it impossible to prepare the work for critical inspection. It is indeed surprising that so much should have been accomplished in the interval of two months, and neither reason nor courtesy would warrant us in dwelling upon certain defects of arrangement, chargeable upon the circumstances in which he was placed, that are not the less to be regretted, because they were inevitable.

The first chapter treats of a subject that has heretofore attracted too little attention—the causes of urinary calculi.

Mr. Crosse considers dyspepsia as one of the important predisposing causes of calculus; remarking that it invariably occasions some derangement of the urinary excretion, which, when combined with other causes, such as want of exercise, variable climate, peculiar diathesis, or disease of the urinary organs, becomes a fruitful source of calculous concretions. Certain peculiarities of diet, independently of dyspepsia, exert a direct influence in producing similar results. Thus, he remarks, that the use of spirituous liquors and acids speedily determines the appearance of particles of lithic acid in the urine, and the employment of alkalies produces alkaline deposits. A residence in settled climates, whether tropical or frigid, tends to diminish the liability to calculus—but variable temperature is one of the important exciting causes. Mr. Crosse explains these facts, on the supposition that sudden diminutions of temperature, by arresting or diminishing the perspiratory function of the skin, predispose the urinary organs to disease, by calling into hyper-action their well known vicarious powers. We may be permitted to add, that sudden or long continued exposure to cold, is a frequent cause of an arrest of urinary discharge, and of spasmodic stricture, which are obviously among the predisposing or exciting causes of calculus. The known frequency of gravel and stone in the county of Norfolk, and the fact observed by the author, that temporary residents often become affected with these diseases after a few weeks, and are re-established in

health without any change of diet, on leaving that district, is accounted for by the uncertainty of the climate and the character of the prevalent winds.

Mr. Crosse next discusses the local causes of calculus, among which are all inflammations or increased mucous secretions in the urinary apparatus, whether traumatic or constitutional—and all affections which produce retention of urine in the whole, or any part of the excretory canal or appendages.

Stricture of the urethra is one of the most fertile causes of this character, acting in various ways, viz: by retarding the discharge, and allowing time for deposition; by producing irritation, inflammation, and catarrhal mucous secretion, propagated by continuity to the lining membrane of the bladder, the ureters, and even the kidneys; by enlarging the ureters and renal pelvis, occasioning regurgitations of urine; and, finally, by arresting small calculi and calculous particles, which would otherwise pass away. The work is rich in instances of these several effects.

Enlargements or hypertrophy of the prostate gland, so common in the aged, the studious, and the sedentary, is also an immediate and not unfrequent cause of calculus. An interesting case is given, with a plate, in illustration of it, where the affection of the gland was apparently the primary affection in a long and complicated train of evils involving calculus. The action of this cause is similar to that observed in stricture, and the same remark applies to cystocele, sacculi, and prolapsus of the bladder, as causes of stone.

Extraneous substances acting as nuclei, in calculus, are generally found surrounded by alkaline deposits, and Mr. Crosse remarks that “there is reason to believe that they (i. e. the deposits) are not furnished exclusively by the urine, but, in some measure, by the morbid secretion from the lining mucous membrane, whether of pelvis of the kidney, or of bladder, in consequence of the irritation and consequent inflammation excited by the extraneous substance.” p. 6.

In a very short chapter on the chemical composition of urinary calculi, Mr. Crosse remarks that Dr. Marcet frequently analyzed only the external parts of calculi; and Drs. Yelloly and Prout, the successive layers. Our author's own researches have been directed chiefly to the nuclei, or to such small stones as have escaped from the urethra; such observations being evidently more likely to throw light on the origin of these concretions. His results, taken in connexion with those of other investigations narrated in the after part of the essay, are curious and important. The composition of the first hundred calculous concretions passed per urethram, were found on analy-

sis to be as follows:—*Lithic acid or lithate of ammonia*, 72—*Lithic acid and oxalate of lime*, 9—*Oxalate of lime*, 14—*Carbonate of lime*, 1—*Triple phosphate*, 2—*Fusible*, 2. Total, 100.

The only other remark of importance in this chapter is a correction of the method of Marcet for detecting oxalate of lime. That author states that when this substance is submitted to a gentle heat, the oxalic acid is driven off, leaving a residuum of pure lime. Mr. Crosse, after Brugnattelli, asserts, that a more intense heat is necessary to produce this effect. The flame of a spirit lamp, urged by a common blow-pipe, simply decomposes the oxalic acid, forming from its elements carbonic acid, which unites with the lime, and produces an effervescence on the addition of nitric acid to the residuum. Nitric acid occasions no effervescence when added to oxalate of lime before heat is applied; which test at once distinguishes this salt from the carbonate of lime which sometimes, though very rarely, forms urinary concretions. p. 8.

We must pass hastily over the third chapter, on the mechanical composition and growth of vesical urinary calculi. The following are the points of greatest interest established by the experience of the author. "Calculi of lithic acid or lithate of ammonia, with a little oxalate of lime, although heavy and dense, are sometimes remarkably friable, and will occasionally break in the bladder, from violence done by sounding, or when there are several, (as often happens with calculi of this composition,) by knocking against each other."—p. 10. Several cases and figures are given in illustration of this fact, which is certainly important in its bearing upon the choice of various lithotriptic operations. Hard and frangible stones are precisely those in which the method by percussion is least objectionable. It will be recollected that a large majority of the nuclei alluded to in the table of analysis given in the last chapter, are of this character.

Some attempts are made to determine the usual rates of growth of the several species of calculi, and enough is stated to show that further investigations upon this question might tend in no slight degree to illustrate the distinctive diagnosis of these concretions.

"It may be remarked that all calculi of slow growth are firm and hard, and of considerable specific gravity; those formed rapidly present the opposite qualities. By comparing the size of a calculus, as discovered on sounding, with the time it has been forming, as indicated by the history of the symptoms, you may arrive at a useful estimate of its density, and the composition, mechanical and chemical, of its interior."—p. 12.

The author next proceeds to describe calculi with eccentric or compound nuclei, pointing out some curious circumstances connected with their manner of growth, and showing that the deposition of fresh

layers on one portion of their periphery, while these layers are absent on other portions, is not a sufficient proof of adherence between the latter portions and the coats of the bladder.

He concludes with the remark, that he has never seen a stone adherent to the bladder, except by the intervention of a layer of lymph, soft enough to be easily broken through; from which fact he infers that the cases narrated by authors, where extraction has been rendered difficult by adhesions between the calculus and bladder, have either presented nothing uncommon, or the stone has been *fixed* in the ureters, grasped by the muscular coats of the bladder, or retained by becoming partially involved in vesical sacculi. All these remarks are illustrated by cases and drawings.

The fourth chapter, on calculi in the kidneys and ureters, and their pathological effects, is rich in very curious observations, cases, and illustrations, but we cannot pretend to notice them in detail. The occurrence of crystals of lithic acid in the tubuli and parenchyma of the kidneys is noticed by many writers, but Mr. Crosse gives us a case believed to be unique in the human subject. The patient died apparently from inflammation and partial disorganization of the left kidney, consequent upon the total obstruction of the left ureter by a stone, arrested at a point about seven inches from the commencement of the canal.

"The right kidney was of small size, but normal in exterior shape and in the condition of its pelvis and infundibular cavities. The parenchyma being cut through in different directions, the tubular part was found occupied by numerous white concretions, varying from the size of the smallest seed to that of a large pin's head; these bodies were distributed over all parts of the substance of the kidney, except the cortical portion; on more minute investigation, I found them to be pure oxalate of lime, crystallized, transparent, and situated in the tubuli uriniferi."—p. 17.

The term mulberry calculus applied to urinary concretions of oxalate of lime, is derived from the appearance of large masses,—“the most smooth and polished of all calculi, called the hempseed, is composed of oxalate of lime, and the purest state in which this compound is found as a urinary concretion, is a white transparent crystallized mass, such as occupies the tubuli in the specimen just described.”—*ib*.

Much attention is given by Mr. Crosse to the changes of structure in the kidneys, produced by retention of urine, consequent upon the presence of a calculus in the ureter or the pelvis of the kidney. He is of opinion that all the severe symptoms of a passage of stone through the ureter may occur from the escape of a calculus from an enlarged infundibulum, through its small neck or orifice, into the pelvis of the kidney. In such a case the diagnosis would be somewhat difficult,

but the single observation on which the remark was founded was not absolutely conclusive. See p. 18.

From among the more important remarks on changes produced by stone, before entering the bladder, we select the following:—

“Spurious hydatids in the cortical substance are found in almost every patient who has long laboured under dysury, from whatever cause.”—p. 18.

“The evils produced by renal calculi are not to be measured by their size; a small passable calculus, in its course along the ureter, causes most severe and acute symptoms, which every practitioner is familiar with; a calculus firmly impacted in and filling the ureter, sometimes gives little pain, although leading to complete destruction of the renal organ; whilst a large calculus, occupying the pelvis and allowing the urine as it is secreted, to pass onward toward the bladder, with much pain, brings no immediate danger, and may remain for many years, increasing sometimes to so great a size that the parenchyma is absorbed to make room for it.”—p. 21.

It appears, also, that large stones in the pelvis are capable of creating acute inflammation, terminating, in some cases, by mortification or abscess of the kidney or of the cellular structure around it. This inflammation occurring in one kidney, may occasion stricture of the ureter and total suppression of urine on that side. Among the usual consequences of a prolonged suppression of this kind, whether occasioned by the impaction of a stone, by the consequences of inflammation, or the destruction of the parenchyma, one of the most constant is hypertrophy of the other kidney, which is then compelled to perform double duty. On the other hand, the constant slight irritation of a small stone in the renal pelvis, sometimes occasions hypertrophy of the diseased kidney.

This chapter contains many very highly interesting cases and illustrations of all the changes just noticed. From a mere partial enlargement of the pelvis and infundibula to the complete destruction of the parenchyma, the kidney, in the latter case, being reduced to a simple membranous sac or bladder believed to be utterly incapable of secreting urine; a change which is proved to be by no means incompatible with prolonged life, and even tolerable comfort. We cannot forbear to extract the following singular case, to show how great are the alterations which may be occasionally affected without producing a suspicion of their existence. The patient was a young woman who hung herself, *in a fit of despondency*, when but seventeen years of age.

“She was apparently well, and actively employed in service, until her death; yet the kidneys presented great changes, and were as unlike a pair, as if they had belonged to different animals. The left kidney was small and diminished, with very little parenchymatous substance, and with enlarged pelvis and infundibular cavities, in consequence of a long oxalate of lime calculus lodging in and completely obstructing the ureter, about midway between the kidney and the blad-

der. The other kidney was of immense size, and of healthy shape and structure." There was "remarkable thickening of the coats, principally the outer, of the left ureter, from its origin down to the calculus, and its very small cavity must have contracted, after allowing the calculus to pass."—p. 24.

These organs are elegantly figured in the seventh plate.

This chapter also contains some interesting observations connected with the diagnosis and prognosis of renal calculi. Mr. Crosse remarks, that a considerable calculus in the pelvis occasions less danger from retention than from acute inflammation, which, beginning in one kidney, often involves the other, so as to produce fatal arrest of the urinary secretion. Among the diagnostic symptoms marking the presence of such a stone, when acute inflammation is absent or dull, heavy pain in the loins, extending sometimes to the scapulæ, at others to the buttocks, groins, scrotum, and thighs. Combined with these are other symptoms equally observable in vesical calculus. The following remarks are important and diagnostic.

"In general, one kidney is principally affected, the other being nearly, or quite, healthy, and we often find that when the urine is clear, the patient has most pain, and expresses himself to feel easy when there is a plentiful mucous secretion with the urine. In the former case, the ureter of the affected kidney is temporarily obstructed, and clear urine from the other organ, which is healthy, alone reaches the bladder. This state of ease, when the urine is turbid, often attends disease of one kidney, unconnected with a calculus; but a marked succession of symptoms, after the above order, always points out one kidney to be diseased, and its ureter occasionally obstructed."—p. 22.

Mr. Crosse closes this chapter with some remarks on the extreme infrequency of ulcerations of the living membrane of the renal cavities and ureters.

"Such a state occurs from scrofulous disease of the kidney, but rarely as a consequence of urinary concretions; when, from their presence, abscesses arise, these are situated in the surrounding adipose substance, and may burst into the pelvic cavity of the kidney, or into the peritoneal cavity, or into the contiguous parts of the colon, or may make their way circuitously on to the surface of the loins. Sometimes the matter, besides bursting in one of the two last directions, also forms an opening into the pelvic cavity of the kidney, from which calculi may escape into the colon, or outwardly upon the loins. Numerous instances of the latter state of disease have been related, rendering it superfluous to pursue the subject by fresh cases of the kind."—p. 24.

In the succeeding chapter, on urinary calculi, situated in the urethra, and on calculous concretions in the prostrate gland, the interest of the essay is fully maintained.

Some of the most curious observations connected with this branch of the subject, are those which display the very various effects on the urinary discharge, produced by the mechanical action of a calculus wholly or partly involved in the prostrate gland. Many of these effects are similar to those produced by enlargement of the gland, and

by inveterate strictures. One of the primary changes resulting from the disury consequent on such accidents, is the dilatation of the ureters, and renal cavities, which have been already noticed. The effects on the bladder are various. When the stone is so situated as to retard very strongly the flow of urine, one of two consequences generally follows. Either the bladder becomes permanently enlarged, being rendered very liable to the formation of sacculi between the fibres of the muscular coat, or the latter become hypertrophied by continual exertion; the bladder contraction is rendered incapable of considerable dilatation, a state of things predisposing to inflammatory alterations, abscesses of the coats, &c., and precluding the possibility of the formation of sacculi.

When, on the other hand, the stone is so placed that it prevents the proper action of the sphincters and urethral or perineal fibres from closing the canal, a constant stilicidium takes the place of the usual disury, and the bladder, being kept almost constantly empty, contracts to such a degree that it is almost obliterated. Meanwhile the stone continues to increase from continual new depositions; its presence and pressure occasion the formation of an extensive cyst, or false bladder, at the expense of the membranous portion of the urethra, the substance of the prostrate gland and the surrounding soft parts; and the case may ultimately become complicated with all the varieties of urinary fistula and perineal abscess. The great importance of these facts, and their bearing upon the operations for cystotomy and lithotripsy, are too obvious to require any comment. How futile do they prove the attempts of those who argue in favour of the exclusive claims of any one mode of operating for calculus! and how useless are those statistical details of results which exclude the minute circumstances of the cases analyzed!

According to Mr. Crosse, stones rarely originate in the urethra, but when placed, either primarily or consecutively, wholly within that canal, they may sometimes remain long in situ, after the disappearance of the pressing symptoms, and the health of the patient may not be very seriously impressed by their presence. But when a calculus is partly embraced by the prostrate, and partly involved in the neck of the bladder, the pain produced by it is generally severe. There is commonly a constant stilicidium, and, after a long time, "there is hardly a vesical cavity remaining to receive the end of the sound."—p. 26. When a stone in such a situation is large, it can be felt distinctly by the finger in ano.

For the removal of such calculi, the ordinary operations with the gorget, or lithotome, are obviously but seldom, if ever, applicable.

The rectal operation is practicable, but is liable to some objections. Mr. Crosse prefers a lateral incision in the perineum, and the introduction of a staff when possible, and when this cannot be effected, he cuts upon the gripe. The means of recognising the situation of such calculi are sufficiently obvious. We also pass unnoticed some curious observations on scrotal stones, and on such as are complicated with cystocele, referring to the work itself for the few comments on these rare cases.

Urethral calculi are generally lodged in depressions or cavities somewhat out of the rout of the discharge, and may escape detection unless the surgeon is carefully attentive to slight impressions made on the sound before reaching the bladder, when he least expects such evidence.

We cannot attempt to analyse all the facts in this chapter, and will conclude by noticing two points dwelt upon by the author. 1st. The peculiar concretions composed chiefly of phosphate and carbonate of lime, and which have been often observed in the vesical veins, are classed among the calculous concretions, which is certainly incorrect, but the author confines himself very properly to a mere passing remark on the subject. 2nd. Cases and illustrations of calculous concretions in the ducts of the prostrate gland, are given. These are produced by depositions from the glandular secretions and not from the urine, but the changes produced by them confuse them with urinary calculi and enlargements of the prostrate, for they sometimes form the nuclei of the former, and necessarily produce the latter. We extract a severe case, to show the character and some of the consequences of this affection.

"A man, aged 81 years, was received into the hospital on account of retention of urine. I learnt that a catheter had been unsuccessfully employed, and a false passage made; I, however, succeeded in avoiding the false passage, and got a catheter into the bladder. Introducing the finger *in anum*, and pressing upon the prostrate gland, I received an impression as if from coagulated blood in the cellular texture; it was a sort of emphysematous feel, which proved afterwards to have arisen from numerous, small, prostatic calculi. Notwithstanding the introduction of the catheter and evacuation of urine, the patient went on unfavourably; abscess forming in the perineum, urine becoming extravasated into the scrotum, and, notwithstanding free incisions to evacuate the sloughs and urine, erysipelatous inflammation, spreading from the scrotum to the abdomen, followed by death, nine days after admission. The bladder presented a very morbid state of the lining membrane, lymph being adherent to it, and blood extravasated into the lining membrane behind it. The emphysematous impression I had experienced was produced by numerous small calculi, a tea-spoonful or more, occupying a large cyst, or prostatic ducts enlarged into a cyst, at the posterior and lateral part of the gland."—p. 35.

The next chapter treats of calculi in the urinary bladder, and their pathological effects. In addition to the inflammatory consequences of the presence of a calculus and the organic changes resulting from disury, to which we have made reference already, Mr. Crosse enlarges somewhat upon the subject of vesical sacculi. His former colleague, Mr. Martineau, in a paper published in the *Med. and Chir. Trans.* xi. p. 404, opposes the idea of encysted stone, but our author mentions a remarkable case of this character, coming under his own observation, referring at the same time to a similar specimen in the museum of the Royal College of Surgeons of London. He states that numerous and small sacculi of the bladder, are very frequently observed in cases of habitual retention of urine, and it is obvious that such changes of structure must be among the predisposing causes of calculous concretions. They are sometimes so numerous or become so enlarged that their united contents may equal that of the bladder itself; but large sacks are rare, and Mr. Crosse still holds that the encysted stone is too often made the apology for want of skill in the surgeon. Cysts, when complicated with stricture, but without calculi, are capable of producing all the symptoms of stone in the bladder, and even after the removal of the stricture those symptoms may persist, and deceive the surgeon; (p. 39,) a fact which will doubtless explain the nature of some of those affections of the bladder so frequently mistaken for urinary calculus.

In the opposite or hypertrophied condition of the bladder, the increased muscular power is not always confined to that viscus, but extends to the sphincters and surrounding muscles, which are thus rendered additional causes of disury and consequent inflammation. Abscesses of the walls of the bladder, sometimes opening into the cavity, and sometimes penetrating the peritoneum, result occasionally from these causes.

Before quitting this chapter, we must be permitted to notice one of those strange mechanical errors that are often handed down from father to son, for years, without examination. In speaking of a case in which there was much difficulty in introducing the catheter, Mr. Crosse advocates the manœuvre of Mr. Hey, of Leeds, i. e. the partial withdrawal of the stilet when the catheter has reached the prostrate gland. We have resorted to this measure too often and too successfully, not to be duly impressed with its importance, but the explanation of a fact is often as important as the fact itself, and our author has followed Mr. Hey and a host of others, in stating that the withdrawal of the stilet increases the curvature of the extremity of the catheter. This is a mechanical absurdity! and it is strange that so obvious an error should

so long escape notice. No flexible, elastic, and originally straight tube, can be stretched upon a wire of any degree of curvature without continuing to exert itself to recover its straight position. This tendency is necessarily displayed, not only by the whole of the catheter, but by each of its parts, the moment restraint is removed. Hence, instantly on the withdrawal of the stilet, the extremity of the catheter tends to take the direction of a tangent to the curve at the end of the stilet, and its curvature, instead of being increased, is actually diminished. Were it not for its flexibility, it would be more likely to meet with insurmountable resistance or to penetrate the prostrate gland in its new position, than when the stilet was advanced to its extremity. These remarks may be considered hypercritical by some, but "words are things," and we have seen mischief done by the firm dependence of a surgeon in the hypothesis of Mr. Hey. Let us explain.—If the operator believes that the simple retraction of the stilet increases the curvature of a flexible catheter, he will not deem it necessary to place the finger in the rectum of the patient before using some force in the attempt to enter the bladder. If the form of the enlarged prostrate tends to elevate the flexible and free point of the catheter, it may, and often does, direct the point in such a manner as to facilitate its entrance into the bladder: but if, as frequently happens, the enlarged gland or some prominent part of it arrests, turns aside, or reverts the point of the catheter, the surgeon is deceived into the belief that still farther retraction of the stilet is necessary, and, with a view to curve it still further, he proceeds to render it *still straighter!* The position of the stilet and the firmness of the catheter gives him the opportunity of using very considerable force, and his mistaken notion of the direction of the point of the instrument encourages him to employ it. At length repeated failure induces him to introduce the finger per anum, which should have been done at first, and, by raising the point of the catheter by this means, it generally enters the bladder with facility. All that is gained by retracting the stilet is the power of freely flexing the point of the catheter, without producing any change of form in the rest of the instrument, but if an increased curvature of the extremity be desired, it can only be produced by the pressure of the finger *in ano*.

The seventh chapter opens with some strictures of just severity upon the practice of unnecessary and repeated sounding. We have seen serious mischief from this cause in more than one instance. To show how far that mischief may be carried, we will extract a note in proof of the possibility of death from sounding, a species of accident

commented on by the French academicians in their recent debate on lithotripsy.

"In consequence of persevering and unsuccessful attempts to discover a stone with the sound, in a little boy, inflammation came on, attended by vomiting, and extending to the peritoneum; the most active antiphlogistic treatment failed to arrest it, and death ensued in four days."—p. 43.

The danger of sounding in cases of tumours in the bladder, and especially in those of a vascular or malignant character, is particularly mentioned, and a most curious and interesting case of soft polypus of the bladder is given in detail. In the face of his own impression, as to the non-existence of stone in this case, from the obscurity of the sensations communicated by the sound, he was induced to perform the lateral operation. On the completion of the urethral section, a semi-transparent mucous-looking matter appeared, which at first induced the operator to fear that, for the first time in his life, he had opened the rectum; the cystic incision was nevertheless completed, and on the withdrawal of the knife, to the horror of the operator and the bystanders, a mass of matter projected from the wound, resembling protruding intestines! It proved, however, that this mass was composed of a congeries of soft polypous tumours, like those of the nose, attended with the usual amplitude and softening of considerable portions of the vesical mucous membrane. Many portions of this mass were removed by the scissors, but the disease could not be eradicated, and the patient sunk under violent vesical tenesmus. The performance of the operation could not have hastened materially the death of the child, who was evidently approaching dissolution before it was performed, and the nature and extent of the disease rendered a cure impossible.

Mr. Crosse makes reference to the several authors who have described or operated for polypi of the bladder, and then proceeds to enumerate instances of operations for lithotomy, where no stone could be found. It may be useful to those whose situation precludes them from access to libraries and surgical authorities, to state the names of some of those to whom this most important accident has happened, and the causes which led to the error.

We have the authority of Benjamin Bell in proof of the fact, that Cheselden operated in three cases without finding the stone. Many such cases are recorded in *Mémoires de l'Académie de Chirurgie*. Dupuytren committed the like mistake, from the existence of some tubercular matter about the orifice of one ureter. M. Roux met with one such disaster, and lost the patient in sixty hours. Mr. Crosse has been himself an eye-witness of eight cases; in one of which the error

seems to have arisen from a remarkable projection of the promontory of the sacrum, another from the sound acting on the uterus! It will be perceived from these facts, how unjust is the violent censure sometimes cast upon the surgeons who meet with such misfortunes, by those who are not thoroughly acquainted with all the circumstances of the case. We believe that this accident has occurred twice in the United States.

Next follow some very excellent directions as to the proper construction and employment of the various sounds, which we can not pretend to follow out; and then the author passes to another chapter, on removing vesical calculi through the urethra. After some observations on the mode of detecting the character and dimensions of calculi, Mr. Crosse proceeds to advocate the propriety of removing all very small calculi by means of the urethro-vesical forceps of Sir A. Cooper. He gives one very interesting case in which he removed numerous small calculi through the urethra, though two of them required incision from their abstraction—one from arrest in the membranous portion of the urethra—the other from the impossibility of drawing the stone beyond the anterior part of the scrotum. We can not entirely agree with the author in advocating the propriety of this method so generally. When we consider the varieties of form remarkable in calculi, it must be obvious that the distension of the urethra by such bodies, when somewhat beyond the natural dimensions of the canal, must be productive, in many instances, of more serious mischief than would result from the necessary straight catheterism, and other operations required for crushing the stone, by the methods of Jacobson or Huerteloup; and the cases which admit of the employment of the urethro-vesical forceps, are precisely those in which the operations just mentioned are most applicable. The frangibility of most nuclei, as illustrated by Mr. Crosse in one of the early chapters, is an argument in favour of the method of Huerteloup; but the instrument of Jacobson is evidently safer, at least in unskillful hands; and the experience of Dr. Randolph proves that a very considerable degree of hardness in the calculus is not an insuperable bar to its successful action. However the question of the merits of the urethro-vesical forceps may be decided by others, the following remarks, by its advocate on the present occasion, should receive attention.

“If the symptoms have steadily persisted in a severe degree for six or eight months—if the concussion of walking or riding produce pain in the glans penis, or occasionally render the urine bloody—if there be a burning heat at the end of the penis, continuing sometime after each evacuation of the bladder, the stone may be regarded as of too large a size to be brought through the urethra, and the urethro-vesical forceps ought to be very guardedly, if at all, employed; and when

sounding comes in support of the opinion that there is a calculus of considerable size present, as pointed out by the dull noise, firm resistance, and extent of surface touched, the urethro-vesical forceps should on no account be introduced."—p. 59.

In a very short passage on breaking up the stone in the bladder, nothing of importance is offered. Mr. Crosse gives a general preference to the percussor over other instruments employed in lithotripsy. The chapter contains some details of a case, the nature of which was strongly contested in the recent debate on lithotripsy in the French academy. We shall wait with some impatience for the detailed observations of our author on this mode of operating, of which he remarks in a note:

"As a description of the lithotriptic percussor, and an account of the operation, originally formed no part of this essay—and as the subject is undergoing such rapid improvement, and the operation extending in the hands of the most experienced surgeons, I shall not now introduce a lengthened account of it, but reserve my remarks for a future occasion; merely stating at present, that I have made repeated trials of lithotripsy, and am so favourably impressed with its efficacy and advantages, that, in any adult male patient, with a stone small, *yet too large to admit of being extracted by the urethra*, I should not feel justified in recommending the more dangerous operation of cystotomy for its removal, unless I failed in previous attempts to crush it in the bladder."—p. 69.

The next chapter relates to the lateral operation for lithotomy, the discussion of the relative merits of the straight and curved staff, &c., but the author has not allowed himself sufficient space for the discussion of so wide a subject. He condemns cutting gorgets, and employs the scalpel, as is usual, we believe, with the English surgeons. The blunt gorget is employed as a director and dilator to the finger, and the deep incisions take the direction of the sacro iliac symphysis. The bi-lateral operation of Dupuytren—an operation performed, we believe, more frequently by Dr. Ashmead, of this city, than by any other American surgeon—has not been resorted to by Mr. Crosse. It will be perceived, therefore, that the principles pursued in the lateral operation are different from those adopted in this country, and the remarks in opposition to cutting gorgets do not apply to the modifications of these instruments introduced by Drs. Physick and Gibson, and invariably approved in the United States. It may be well to remark in passing, that the mechanical action of these modifications has never yet been fully described, and we shall shortly endeavour to call public attention to the subject.

Mr. Crosse strongly reprehends, and with entire justice, the habit too prevalent among surgeons, of operating hastily for the sake of effect. No time should be lost in extracting the stone, with due regard to safety, but the habit of operating against time is cruel and inde-

fencible. We see certain peculiarly adroit operators who extract a stone *in certain cases*, with skill and propriety in a single minute, but it would be highly dangerous to follow the example in others. Of this fact, the operators are themselves aware, but it cannot be too strongly impressed upon the student. If a patient is thoroughly relieved of stone, it matters extremely little, whether it be done in one minute or five. In speaking of the best forms of forceps, Mr. Crosse appears to be ignorant of the fenestral forceps of Dr. John Rhea Barton, to which, if these pages should meet his eye, we would call his attention. They possess many and very decided advantages in certain forms of calculus.

Whatever opinion may be entertained of the advantages of particular methods of operating, the plan advocated in this essay seems to have been singularly successful.

"This is the method employed with singular success by my senior colleague, Mr. Dalrymple, as well as by the late Mr. Martineau, at the Norfolk and Norwich Hospital, in which institution the last thirty-eight male patients thus operated upon by the present surgeons, Mr. Dalrymple, Mr. Norgate, or myself, have all recovered, (Nov. 1834.)"—*Note*, p. 75.

Two more chapters complete the essay. The first is devoted to the treatment required after litho-cystotomy, and, though replete with hints of importance, contains little to arrest us by its novelty. The second relates to hæmorrhage after the operation. More stress is laid upon hæmorrhage from the vessels divided in the first incision and in opening the urethra than we should have supposed requisite, but the author is borne out by his experience.

The directions for the arrest of hæmorrhage are minute, and will, in general, meet with approval, but it is only necessary to notice a few particulars. We have never seen one of those unfortunate cases in which free bleeding comes on after the operation, and cannot be checked without the introduction of the catheter and plugging the wound around with lint.

Mr. Crosse acknowledges, that, "in all cases where plugging is had recourse to, the surgeon cannot relinquish apprehensions of the patient's doing ill, even though the hæmorrhage be checked." p. 88. And again,—“In every case where plugging is called for, the operator may, with good reason, apprehend some untoward symptoms.” p. 89. He believes that “the internal pudic artery is always accessible to a ligature by means of a small curved needle, describing the third of a circle, of about an inch in diameter.” p. 92. He advocates “tying the main trunk for a bleeding from an orifice at some distance, where you cannot tie the open orifice direct.” *ib.* Yet, in the face of these remarks, he plugged the wound in an old gentleman for a hæmorrhage coming

on two hours after the operation, although he "stopped the hæmorrhage by pressing for a quarter of an hour the left pudic artery against the ramus of the ischium." p. 88. He lost his patient. Again, in a patient affected with deep seated bleeding, he first plugged the wound, and, finding that the lint did not arrest the hæmorrhage, he tied the pudic artery, and succeeded in saving his patient after some threatening symptoms. (p. 92.) In these observations there is an obvious conflict between the practice and the principles. In deep seated bleeding, springing from parts above the levator ani muscle, unless the hæmorrhage is checked by pressing the internal pudic against the ramus of the pubis, it is in vain to tie this vessel, for the bleeding branch may be derived from a totally different source. p. 93.

The arteries of the bulb, when cut, require the ligature. Either or both of them may be wounded. A case of wound of the right one only is given at p. 89.

"I have repeatedly seen the corpus spongiosum wounded, and sometimes distinctly laid open to view, by an operator who was accustomed to cut too high, going directly down to the staff where he could readily feel it; and yet no serious hæmorrhage ensued. The wounded corpus spongiosum is secured by pressure and dry diet, and does not furnish an alarming bleeding, if the arterial branch be not divided before entering the bulb."—p. 90.

Mr. Crosse does not appear to have met with much inconvenience from bleeding from the venous plexus about the neck of the bladder, and regards venous hæmorrhage as not very important. Reflux of blood from the wound into the bladder, when the rout through the former is obstructed, sometimes leads to inconvenience or deception, and, if drawn out by an exhausting syringe and canula, the hæmorrhage, after it is apparently suppressed, may be renewed. One patient discharged from the bladder, through the wound, five or six ounces of coagulated blood, "six days after the operation, with great straining and pain, after the manner of a woman in labour, and afterwards all went on well." p. 94.

The infrequency of secondary hæmorrhage, since the introduction of the modern improved modes of operating, is commented on; but two cases have fallen under the observation of the author, and are slightly noticed.

In concluding the prize essay, the author claims a credit which appears to be justly his due—that of having stated "honestly and freely" the unfortunate occurrences observed in his own practice, and that of others within the sphere of his observations.

"To boast of uniform success in any capital operation, is not the dignified course of a surgeon, any more than that the physician should

quack of universal cures. Experience, like victory in battle, is seldom gained without counting a certain number of slain."

Of the twenty-seven pathological plates, with their ample explanations, we will only observe that they constitute a most magnificent donation to surgical pathology, illustrating very numerous changes of structure, many of them rare, and of the highest interest, and executed in a highly creditable manner. We regret extremely to learn from the author, through a private channel, that the expense attendant upon such illustrations has limited the extent of the edition, and that the work is not likely to be reprinted in its present dress. Its usefulness, so far as this country is concerned, must, therefore, be restricted to a narrow sphere. Two other plates are added, containing views of a few lithotomic and lithotripsic instruments.

After the conclusion of the prize essay, we meet with two appendices. The first of these contains notes on twenty-two cases of operation for lithotomy performed by Mr. Crosse, or executed in his presence. Some valuable practical hints are contained in this portion of the work, but, perhaps its chief value is derived from the broad exposure of the horrible carelessness or ignorance of some who audaciously tamper with human life in severe surgical diseases, and the display of the goodness of Providence, in occasionally counteracting the efforts by which art (*so called*) tends to conquer the powers of nature. We cannot avoid extracting the strongest of these cases, nearly entire. *It is certainly unique!*

"I assisted, some years ago, as staff-holder to a *by-gone operator*, in favour of a little boy three and a half years old. The perineal incision was not above an inch in length, and, although the staff was soon bared, the scalpel was used in no regular order. When the operator had applied the blunt gorget, and made its beak play in the groove of the staff, I could not get him to take the latter instrument into his own hands; so he pushed the gorget on whilst I continued to hold the staff; and, as soon as this instrument was withdrawn, he thrust in his long fore-finger, in spite of my loud call, that, in so tender a patient, he should use the small one. After the fore finger had been thrust as deep as it would go, its entire length, there arose a doubt as to the bladder being opened; no stone could be felt, and, with much flow of blood, there was no gush of urine. After much probing with the finger and with forceps, all persons present became convinced that the bladder was not opened, and that the gorget and forceps, as well as the operator's fore-finger, had passed between that organ and the os pubis. The staff being again introduced through the penis, it passed regularly into the cavity made in the cellular texture behind the os pubis, giving to the experienced touch a different impression from that of being in the bladder, and no stone, could, of course, be felt; in short, the bladder, as I believed on examining, was detached from all its anterior connexions, and the urethra torn or cut across about the membranous part. At length I was fortunate enough to hit the prostatic urethra, reach the bladder with the staff, and feel distinctly the stone. I passed the blunt

gorget into the bladder, guided by the groove of the staff, and of course dilating the neck of the bladder, which is very practicable and even safe in a young patient. I tried to pass my little finger, but found so narrow an opening that it was like attempting to get it into the urethra, and the bladder was so separated from its ligamentous and other connexions with the os pubis and the perineum, that it readily retired from my finger, avoiding all attempts at dilatation, and creating great difficulty; a pair of small dressing forceps, however, entered; the stone was grasped and brought down (and with it the bladder) to the external wound, in which change of position, the bladder, *I calculate*, must have descended nearly two inches lower than the situation it occupied when I introduced the forceps, so great was its mobility under the employment of very gentle force."—p. 153.

It is not necessary to follow all the details of this case; suffice it to state that the bladder was opened while retained by the dressing forceps, by an incision with a bistoury, and the calculus was then removed with a small lithotomy forceps, and the unfortunate patient was put to bed, where of course he remained until death and the doctor together (*mirabile dictu!*) proved their powers in vain. The wound healed by the first intention, and the child recovered!

Much interest has been expressed in various quarters, in the mode of operating adopted by the late Mr. Martineau, from the wonderful success displayed in his report of cases. The success is partly explained by Mr. Crosse, who describes the extreme caution with which that eminent surgeon selected his cases. Our author praises this caution perhaps a little too highly. We often hear men of eminence on this side the Atlantic defend the position, that a good operator ought not to be free in risking his reputation by undertaking unpromising cases; but we hold that the first duty of the surgeon is to secure the safety of his patient—and until this is performed, he has no moral right to think of his own reputation. The principle advocated sometimes leads to the worst form of cowardice—the desertion of a post, for fear of pecuniary loss! However this question may be decided by others, the caution practised has a very strong bearing upon the value of the results, and it needs all the force of this explanation to account for the success of measures which are apparently opposed by all the known laws of surgery. Mr. Martineau was in the habit of arresting his incisions before he had sufficiently divided the prostate gland, and employed the blunt gorget in the forcible dilatation and laceration of this gland, as Mr. Crosse proves in some commentaries upon one of his cases. Our author goes farther, and contends that such dilatations are safe in children, while he seems by no means to frown upon the employment of considerable force in the adult.

We are not to be convinced that a laceration of a portion of the prostrate gland, complicated with a contusion of the remainder, is a

less formidable accident, *per se*, than an incision of the same parts. Hæmorrhage, from his own showing, does not take place to a dangerous extent from this part; and the other ill consequences of free incisions are known to depend upon their extent, the proper and safe limits of which are now well understood, and need not be transcended in any case.

The second appendix contains numerous tables of the character and results of 704 cases of lithotomy, chiefly performed in the Norfolk and Norwich Hospital, which furnish a model for such statistical papers, highly satisfactory and nearly perfect.

The work concludes with 66 pages of closely printed bibliography, the result of most indefatigable research, and altogether invaluable to the laborious student of lithotomy, lithotripsy, and the history of these operations.

We take leave of Mr. Crosse on this occasion, with the feeling of those who have received a favour of great importance; and in acknowledging our inability to do more than cull and distribute a few of the fruits contained in this pathological storehouse, we regret that a greater extension of its advantages is precluded by the difficulty of gaining access to works of such a costly character.

R. C.

BIBLIOGRAPHICAL NOTICES.

XIII. "*Illustrations of the Elementary Forms of Disease.* By ROBERT CARSWELL, M. D., Professor of Pathological Anatomy in the University of London. London, 1834-5. Fasciculi, 6, 7."

Of the various forms of lesion to which the human frame is exposed, none is so frequently and imminently fatal as hæmorrhage, and although the attention of the medical profession was at an early period directed towards it, its entire effort was expended in determining the most prompt and effectual means for its arrestation. For correct views of the causes and manner by which this lesion is accomplished, we are altogether indebted to the labours of more recent pathologists, based upon those correct and enlarged physiological views, but recently developed in reference to the forces which circulate the blood. It could not be otherwise, than that the opinion entertained upon this subject should be crude and erroneous, while the heart was esteemed the sole organ of circulation, and which, instead of elucidating the investigations, was throwing difficulties in the path of the investigator: but with just views of the part which each organ in the series sustains in this important physiological act, the student is enabled to appreciate the operation of the many causes tending to the production of local alteration in the circulation of the blood, the influence of which is variously modified by the action of the blood-vessels in the immediate vicinity.

Hæmorrhage, as the term implies, is the extravasation, or escape of the blood from the vessels which circulate it into the adjacent structures: the source of the hæmorrhage may either be the heart, arteries, veins or capillaries, and it may result from incised wounds, puncture, laceration, ulceration, or mortification; or, as is more frequently the case in local hæmorrhage, from exhalent or secreting surfaces, by the increased capacity of the capillaries, with out any appreciable lesion, permitting the red globules of the blood, with the ordinary constituents poured out in the process of exhalation or secretion, to enter them, and then escape from their dilated extremities.

The development of erectile tissues or vascular tumours, may, by the erosion of their coats by the ulcerative process, also give rise to hæmorrhage: mechanical obstructions to the circulation, whether situated in the heart, as hypertrophy or dilatation of its walls, or non-occlusion of the auriculo-ventricular opening giving rise to venous congestion, the uniform result of an obstacle to the return of the blood, or diminution in the activity of the organs carrying on the circulation; or in the arteries, from ossific or calcareous degeneration; or from the loss of elasticity in their inner coats, by which the impetus of the blood is no longer counteracted, and a gradual and uniform distention of the external coat occurs, resulting ultimately in rupture. This process of rupture is illustrated by the several stages in the progress of aneurism. The mechanical obstructions to the circulation produce hæmorrhage, by the gradual accumulation of blood in the venous trunks, followed by a corresponding distension of the capillary vessels; which, being no longer able to sustain the distending force, rupture and effuse their contents into the surrounding cellular membrane.

Other causes than mechanical obstructions to the circulation and disease of the arterial coats, may become the efficient agents in developing venous turgescence, and subsequently hæmorrhage; as, for instance, the loss of tone in the textures of aged and debilitated persons, by which a partial stasis is produced in the depending parts of the body—or in many forms of disease, by the blood losing its cohesive or plastic property, and becoming more fluid, and passing through the permeable coats of the vessels into the subcutaneous or inter-muscular cellular membrane, as in scorbutus and puerpera hæmorrhagica.

The last, and by no means the most uninteresting cause of hæmorrhage, is a morbid condition of a secreting organ interrupting its usual secretion, and thereby refusing to receive its ordinary supply of arterial blood: the circulating organs, with a view of compensating for this derangement, determines the superfluous blood to another secernent organ, establishing a supplemental hæmorrhage from its capillary vessels. This form of hæmorrhage has received the name of vicarious, and is most usually the result of a suppression of the menstrual discharge of the female, and is entirely dependent upon an excited action of the capillaries inviting into them an inordinate quantity of blood. For the purpose of arranging the several lesions giving rise to hæmorrhage, under a natural and simple classification, Dr. Carswell has considered them as susceptible of division into physical and vital, with the following subdivisions:

Hæmorrhage from Physical Lesions.

- | | | | |
|-----|---|---|-----------------------------------|
| I. | From solutions of continuity. | { | 1. Incised wounds. |
| | | | 2. Puncture. |
| | | | 3. Laceration. |
| | | | 4. Ulceration. |
| | | | 5. Mortification. |
| II. | From mechanical obstacles to the circulation. | { | 1. Situated in the heart. |
| | | | 2. Situated in the blood-vessels. |

Hæmorrhage from Vital Lesions.

- | | | | |
|------|--|---|--|
| I. | From a modification of functions of the capillaries. | { | 1. In vicarious hæmorrhage. |
| | | | 2. In hæmorrhage from erectile tissue. |
| II. | From a diseased state of the blood. | { | 1. In scorbutus. |
| | | | 2. In some forms of puerpera. |
| | | | 3. In some forms of typhoid fever. |
| III. | From debility.—In depending parts of the body. | | |

Hæmorrhage may occur in almost any part of the body, but is in a great measure influenced by age; to wit: in childhood the mucous lining of the nasal cavities is more frequently the seat of this lesion; in youth, the bronchial mucous membrane; in the middle or decline of life, the digestive, uterine, and urinary organs; and lastly, in old age, the brain. Peculiarities of structure influence in a great measure the tendency to hæmorrhage, either in inviting lesions of the vessels, as in the delicate structure of the brain or the cellulo-vascular organization of the lungs, or in resisting it by the dilatibility of the textures preventing rupture, as in the spleen. The extent of the hæmorrhage varies greatly in different locations, or is influenced by a multiplicity of circumstances; the anatomical structure of the part, its natural function, the state of the vessels, the causes exciting it, or the general temperament of the individual. Some structures are most frequently the seat of this lesion, and appear to involve it, as for instance the mucous membranes. From these surfaces the hæmorrhage is almost invariably circumscribed and confined to narrow limits. The blood may be extravasated

into the cellular tissue, the serous cavities, or mucous passages. The two former may be concealed and retained in the body, while the latter is ejected. This rule, however, may admit of exceptions; as, for instance, where, by rupture of the lung in pulmonary apoplexy, the blood escapes into the pleural cavity.

Dr. Carswell proposes to discard the term *pulmonary* hæmorrhage, and substitute in its place *vesicular*, as in both bronchial and pulmonary hæmorrhage the blood is effused from the mucous membrane; whether the blood be expectorated, as in hemoptysis, or retained, producing pulmonary apoplexy.

Effusion of blood within the cranial cavity, giving rise to cerebral apoplexy, has merited the attention of pathologists of every country; and from the many locations which it may assume, has excited an interesting subject of inquiry, viz: how far the pathological phenomena will enable the practitioner to determine the location of the effused mass. We shall give Dr. C.'s views and remarks upon this subject, in his own words, merely premising that the extravasation may take place either between the dura mater and the cranium, between the pia mater and the brain surface, in the cavity of the arachnoid, between the arachnoid and dura mater, in the substance of the cerebrum or cerebellum, in their crura, in the pons varolii, in the medulla oblongata, in the corpus callosum, or in the ventricles.

"There has not as yet been established any special relation between the seat of the effused blood and the paralysis of particular organs. It has been said that paralysis of the superior extremities depends on the effusion taking place in the *thalami*, or in the cerebral substance, situated on a level with, and posterior to them; and that paralysis of the inferior extremities depends on the effusion taking place in the *corpora striata*, or in the cerebral substance, situated on a level with, or anterior to them. This statement, the accuracy or fallacy of which can be put beyond all doubt, by any one who has studied this subject practically, is far from agreeing with the result of my observations. The fact is, there are cases of cerebral hæmorrhage, in which the paralysis is either limited to, or greatest in degree, in the inferior or superior extremities, and in which cases the effusion bears the respective relations to which I have alluded. But there are others, and they are numerous, which shew that paralysis of the extremities has no necessary connexion with effusion into these portions of the brain, inasmuch as they furnish us with examples of paralysis, either of the inferior or superior extremities separately, or of both at the same time, when the effusion is confined to the cerebral substance of the convolutions, or to the middle lobe of the brain. Besides, paralysis of the extremities is as complete in hæmorrhage of the cerebellum as in that of the brain."

"It has also been said that the loss of speech, which not unfrequently accompanies cerebral hæmorrhage, depends on the effusion occupying the anterior lobes of the brain; a statement which derives still less support, from actual observation, than the former; for blood may be effused in the anterior lobes of the brain without giving rise to any modification of speech whatever."

Our author thinks that in reference to the relation which exists between the seat of cerebral hæmorrhage and the attendant paralysis, the following facts may be admitted as well established:

"1. That the paralysis occupies the side of the body opposite to that of the brain or cerebellum, in which the effused blood is situated.

"2. That the paralysis affects only one side of the body, when the effused blood is confined to one hemisphere of the brain, or one of the lateral lobes of the cerebellum.

"3. That the paralysis exists on both sides of the body, when the hæmorrhage has taken place in both hemispheres of the brain, or both lateral lobes of the cerebellum; into the ventricles, the pons varolii, the medulla oblongata, and on the surface of the brain.

"4. That paralysis of both sides of the body may also take place, when the

hæmorrhage is confined to one hemisphere of the brain or lateral lobe of the cerebellum, but is so extensive as to produce compression of the opposite hemisphere or lobe."

Dr. Carswell remarks, that inasmuch as blood effused in one lobe of the cerebellum, produces paralysis of the opposite side, as when the cerebrum is the part assailed, that we should infer that when a lobe of the cerebellum is the seat of the disease, and at the same time the opposite hemisphere of the brain, that general paralysis would be the result; yet this is not the case: for Andral observed that the paralysis existed only on the side opposite to the affected hemisphere, while the remaining portion of the body was unaffected by the effusion into the cerebellum.

"Nor is this," says Dr. Carswell, "the only circumstance connected with paralysis from cerebral hæmorrhage, which has eluded our researches on this subject, as we have seen in some of the instances to which I have alluded under another point of view; such as the occurrence of paralysis in the inferior and not in the superior extremities, and vice versa, loss of speech in one case and not in another, under circumstances of locality apparently similar, or which afford no rational explanation of such differences."

The quantity of blood effused may range from a few drops to several pints; and, *cæteris paribus*, is greater when a large trunk is ruptured, than when it proceeds from the capillary vessels; although a hæmorrhage from the capillaries may, owing to the inordinate action of the vessels affected, result in a fatal issue. It is an extremely rare occurrence, for venous hæmorrhage to terminate fatally; yet, from lesion of a large trunk, either by an incised wound or ulceration consequent upon varix, the flow of blood may be so great as to overwhelm the patient in a few moments. Compression, laceration, obstruction of the natural passages, inflammation, suppuration and mortification, may be considered the local effects of hæmorrhage. The brain is the only organ which seems to suffer much modification of function by the compression resulting from effusion of blood, viz. paralysis. This, however, is not an invariable consequence; for, many cases are on record, in which the effusion amounted to several ounces; but as the extravasation was gradual, no immediate pathological phenomena occurred. *Laceration* not unfrequently takes place in the lungs, as the attendant upon pulmonary hæmorrhage, particularly when the quantity of blood effused in a single portion was considerable. The obstruction of natural passages by the effusion of blood, is not attended with any very important modification of function, except in pulmonary hæmorrhage, where the quantity thrown out is sufficient to obstruct the respiration. Inflammation, suppuration and mortification, frequently follow the effusion of blood: softening of the cerebral mass surrounding the mass of blood; exciting convulsive twitchings and spasmodic contractions of the muscles is the sequence of inflammation; while suppuration and mortification are more frequently found as the terminations of pulmonary hæmorrhage.

Of the changes which take place in the effused blood.—When blood is effused, it is either removed by absorption or ejected with the natural secretions, or remains and becomes organized: thus, blood effused into the subcutaneous cellular membrane is rapidly absorbed; if the alimentary canal is the seat of the hæmorrhage, the blood is speedily dejected by the peristaltic action of the bowels; but the effusions into the pulmonary texture remain unabsorbed for several weeks; while in the brain structure, it may be found at the end of life under different forms and modifications.

Blood thrown into the peritoneal cavity, or extravasated into the cellular tis-

sue, has frequently been found entirely organized, carrying on a perfect circulation, and displaying, satisfactorily, the processes of nutrition and growth. The changes observed to take place in blood effused in the cerebral substance, are arranged under the two following heads:

"1st. Those which are characterized by modifications in the colour and consistence of this fluid."

"2nd. By the formation of a vascular tissue."

Upon this subject, Dr. Carswell remarks:

"The changes of colour consist in the gradual deepening of the red till it amounts to black, and the successive transitions to brown, dull green, orange, pale yellow, or yellowish white. The consistence of the blood is indicated by the degree of coagulation which this fluid has undergone, and does not exceed that of firm fibrine. It is not until the latter changes of colour have taken place, and the fibrine, separated from the other constituents of the blood, has assumed a fibrous or laminated appearance, that blood-vessels are observed to form in it."

From this period, Dr. C. thinks, we should date the commencement of the formation of a vascular tissue; and the changes which take place in the tissue may be one of two kinds;—it may either retain its primitive arrangement, that of fibrine, for a considerable period, and subsequently is converted into a firm, fibrous substance, gradually diminishing in bulk, until it is reduced to a thin, circumscribed portion, which is the cicatrix of the original lesion; or, this organized fibrinous substance may be converted into a loose, cellular tissue, containing serum; receiving and distributing upon it innumerable small blood-vessels. The quantity of serous fluid increases, while that of the cellular membrane diminishes, as well as the blood-vessels with which it was so liberally supplied; by this means, a cavity of considerable size is formed, filled with a serous fluid of citrine colour, and circumscribed by the remaining cellular tissue, in immediate contact with the brain substance: this cellular tissue is ultimately transformed into a serous membrane, and is recognised as the *apoplectic serous cyst*. This cyst is obliterated by the gradual removal of its serous contents, by which the walls are brought into contact, and by the adhesive property of serous surfaces, they are firmly united, leaving only a delicate cicatrix.

Physical Characters of Hæmorrhage.—Under this head our author notices the physical characters which hæmorrhage assumes in the different organs, particularly in the brain, lungs, digestive, urinary and genital organs, and in the skin and cellular tissue; which, when condensed, amounts to the following. *Brain.** In this organ the size of the effused mass varies from the size of a pea to that of a hen's egg; is either of a dark red colour, or almost black; coagulated or partly fluid, and partly solid. The surrounding cerebral substance is always more or less ragged, and not unfrequently some portion is broken down and mixed with the fluid. When the blood is washed away the substance of the brain is studded with dark spots, indicating the coagulation of the blood in the mouths of the lacerated vessels.

"There is one variety of the cerebral hæmorrhage which I may notice, as it is characteristic of the mode of operation of the cause by which it is produced, viz. mechanical violence. The blood is effused in a number of isolated portions of the gray and white substance, more especially of the convolutions, which, when divided with a scalpel, present a multitude of deep red dots, resembling somewhat puerpera, or rather petechiæ, from the dots being small. These form groups, varying from the size of a hempseed to that of an almond. The particular appearance of this kind of hæmorrhage depends on the rupture of a great number of small vessels having their orifices filled with coagulated blood."

Lungs.—Hæmorrhage in these organs assumes one of three varieties. 1. The

effused blood is contained in the vesicular structure of the lungs. , 2. The air cells are ruptured and it has passed into the cellular tissue. 3. The pleura is ruptured.

In the first the blood being contained in the air cells, is collected into round, circumscribed, solid masses, which, when cut, presents a deep red colour, with here and there light red spots, indicating the location of the open mouths of the bronchi and blood-vessels. The cut surface presents a granular appearance, which disappears by passing the scalpel over it, and produces in its stead a cellular or honey-comb appearance, by the removal of the blood from the incised air cells. In the second variety, the blood being thrown into the cellular tissue, is rapidly diffused through it, and may involve the entire lung; the blood itself may be found fluid in some situations, in others coagulated, with shreds of the cellular pulmonary texture traversing it: the excavation, instead of being regular, as in the former, is now extremely ragged. In this species of hæmorrhage the respiratory acts are almost entirely suspended, the pressure of the blood obliterating the air cells. The third form, is a modification of the second, and indicates a more extensive lesion, that of the pleura, superadded to the one already existing. The physical characters of bronchial hæmorrhage needs no particular description, for the blood, either fluid or coagulated, is collected chiefly in the minute ramification of the bronchi, and is inconsiderable in quantity, which is owing to its being expectorated as rapidly as it is exhaled from the mucous membrane; for the same reason, we never find bronchial effusions overloading the air vessels, although this may, in some measure, depend upon the absence of a mucous lining to those cells. If the blood is effused more rapidly than can be expectorated, the whole cellular structure of the lungs is surcharged with blood, and we have a pulmonary apoplexy, differing from the above in the location of the fluid; in the one, the fluid is extravasated in the cellular tissue of the lung; in the other, in the air cells and bronchial vessels.

"When a cure is effected of the first variety, (and in this variety alone has it been observed,) the granular arrangement disappears, and the circumscribed margin becomes less defined; the deep red colour passes into a dull purple or leaden hue, or assumes a lighter tint; at the same time the hardness diminishes, and the blood-vessels and bronchi, which were before impermeable, permit an injection of air or water to pass through them. In proportion as the blood is removed by absorption, the natural structure of the part reappears, until at last no trace of the disease is to be observed."

"Instead of being absorbed, the blood, it is said, sometimes becomes organized, or enclosed within a cyst. The termination of pulmonary apoplexy in suppuration or mortification is a very rare occurrence."

Digestive Organs.—The blood effused into the stomach is never found to retain its natural red colour, but assumes a dark blue, brown tint, resembling bistre, or a sooty black colour: this change from the florid red to brown or black, is evidently the result of the action of an acid, from which we may infer that black vomit and mælena are mere hæmorrhages from the gastric vessels, modified by the action of the gastric acids: the consistence of the blood is usually increased, and is coagulated in large masses or in small granular coagula, mixed with serum, and the fluid secretions poured into the stomach; such is actually the state of things in black vomit, where the fluid ejected strongly resembles coffee grounds. The quantity effused is extremely variable. Another form of intestinal hæmorrhage, by no means unfrequent, is that in which, by the ulcerative process, branches of the mesenteric vessels of some magnitude are opened, and the blood, by these means, thrown into the intestinal cavity. Hæmorrhage from the

mucous or submucous cellular tissue sometimes presents us isolated patches, of a dark red, brown, and almost black colour, not unlike the motley appearance of ecchymosis: in this lesion the blood is either alone effused, or with the effused blood we have associated a congeries of blood-vessels in a state of turgescence.

Urinary Organs.—Hæmorrhages in these organs are of little importance, except in those which usually occur in the cavity of the bladder. Here the hæmorrhage may either take place from the mucous surface, and is confined to isolated spots, or in the cellular tissue upon which it is spread; in either case, the hæmorrhage is circumscribed, varying from a line to an inch in diameter; of a deep red colour, the larger patches having a small ash-coloured slough in their centres: blisters applied to different parts of the body, may become the immediate causes of this lesion; but the usual cause, is the formation of the hematoid variety of cephaloma located in the prostrate gland.

Organs of Generation.—As our author confines his description to the hæmorrhages which take place in the female, during the unimpregnated state of the uterus, which constitute an important class of diseases, we prefer to give them in his own words, uncondensed.

“These,” (local lesions, giving rise to uterine hæmorrhage,) “are congestion of the mucous membrane of the uterus; ulceration of the os tincæ or of the vagina; carcinoma in these two situations; and the presence of the erectile tissue in the form of polypi, within the cavity of the uterus. The first of these local lesions has been occasionally observed to accompany those copious discharges of blood which occur in excessive and irregular menstruation. The second is a more obvious cause of uterine hæmorrhage, and occurs most frequently as a termination of carcinoma. The third is not a frequent cause of uterine hæmorrhage, but it may be the source of the most extensive periodical discharges of blood, and, from its situation, leaves the practitioner in utter ignorance of its nature. In one case of this kind, which occurred in a married woman at the age of forty-five, the hæmorrhage continued for a period of twelve years. It often took place suddenly, and, to a great extent, and was accompanied with the discharge of large clots of blood. The only morbid appearance observed, consisted in a round flat tumour, nearly three inches in breadth, and half an inch in thickness, situated at the fundus of the uterus, and projecting into the cavity of this organ, in the form of a mushroom. It appeared, at first sight, to form part of a large fibrous tumour, situated posterior to it, and contained in the substance of the uterus. It was, however, a distinct tumour, the central portion of its posterior surface being but slightly attached to the mucous membrane, and was composed of a cellulo-vascular tissue, with here and there small cavities filled with yellow-coloured serosity, or a fluid resembling chocolate. The free surface was covered by a smooth membrane, presented a mottled aspect, of gray, blue, red, and yellow, and was traversed by numerous varicose vessels, of which some were pretty large. From these vessels, I believe, the hæmorrhage proceeded, and it is probable that the periodical character of the discharge and the frequency of its occurrence depended on the erectile nature of the tumour.”

The ovaries are sometimes the seat of hæmorrhage, the effusion occurring in the capsules of the ova, by which they are distended to the size of a pea.

Skin and Cellular Tissue.—Hæmorrhages in these textures constitute what are termed petechiæ, puerpera, and ecchymosis. When the blood is collected in minute isolated points, situated immediately beneath the cuticle, the colour varying from a light red to a deep purple, it is termed petechiæ. If the hæmorrhage be increased, forming larger spots, the colour varying as in petechiæ, but situated between the reti-mucosum and cuticle, in the cutis and subjacent cellular tissue, it is then styled puerpera, of which we have two varieties, puerpera simplex and puerpera hæmorrhagica. Ecchymosis or scorbutic blotches differ from puerpera by being more extensive, ranging in size from a shilling to the breadth of the

hand, scattered over the body, but most usually on the lower extremities. The colour resembles very much that of the ordinary ecchymosis attendant upon a bruise: when the infiltration in the cellular tissue is extensive, the discoloration is accompanied by considerable hardness.

Mortification.—This term is used in England to express that state of any texture in which there is a complete and permanent extinction of life. On the continent, gangrene is applied to this state, while in England it merely signifies the incipient state of mortification, and in which there is not a total extinction of the vital powers, for the blood still circulates in the larger vessels. Sphacelus is applied to the state which we have called mortification, that being an entire extinction of vitality, a cessation of all circulation, and a loss of sensibility. This pathological state has received different characteristic terms, dependent upon the condition of the affected parts; thus we have a *hot gangrene*, a *cold gangrene*, a *humid* or a *dry gangrene*; the last, from its frequently attacking old persons, is sometimes called *gangræna senilis*. Dr. Carswell has arranged the different forms of mortification according to the causes which excite it. 1. Mortification from cessation of the circulation. 2. Mortification from the violent operation of mechanical, chemical, and physical agents. 3. Mortification from the deleterious influence of certain poisons.

Mortification from Cessation of the Circulation.—This form of mortification may arise from inflammation, mechanical causes obstructing the passage of the blood, and from local or general debility.

1. *Mortification from Inflammation.*—Every tissue of the body may be the seat of this disease, but those textures, which are more liberally endowed with blood-vessels, and in which an inordinate circulation may be readily excited, are more frequently involved in this form; for this reason, we find the skin and cellular membrane among the most exposed, while, on the other hand, the serous and fibrous textures are but rarely attacked, and Dr. C. considers them never to be immediately affected, but secondarily by the diseased state of the main vessels, from which they derive nutriment.

“These circumstances enable us to explain why, in many cases, mortification takes place in one tissue and not in another, although the inflammation by which it is preceded is the same in kind, degree, and duration. There are, however, many other circumstances of perhaps still greater importance, the single or conjoint operation of which, favours, in a most remarkable manner, the termination of inflammation in gangrene and sphacelus: such as a state of chronic inflammation of a portion of an organ, accompanied by induration and obstructed circulation; a state of local congestion, depending on the presence of an obstacle to the return of the venous blood; that state of general debility which prevails at the termination of protracted fevers, or during the first period of convalescence; and a morbid condition of the blood, such for example, as that which occurs in scorbutus.”

General phenomena of Gangrene and Sphacelus.—When gangrene, as the result of inflammation, is about to appear in the skin and subcutaneous cellular membrane, the part becomes purple, livid, or almost black; the temperature falls—it may or may not become soft; small vesicles appear in the skin, from the serosity of the blood effused under the epidermis; the sensibility of the part, before exalted, is almost destroyed, and is transferred to deeper locations. From this time the colour may change to a dirty brown, black, yellow, or greenish hue; the vesicles or phlyctenæ become larger and more numerous; the skin and cellular membrane is puffy and crepitates when subjected to pressure; and the sphacelated surface emits a most offensive odour.

"So long as gangrene continues to spread, the dark colour by which it is characterized is diffuse, and looses itself insensibly in the surrounding skin; but when it is about to terminate favourably, the dark-red colour becomes more circumscribed, gradually disappears, and is replaced by a brighter red, which extends over the affected surface, accompanied by a diminution of the swelling and pain. By and bye, the blood having resumed its wonted course, the natural temperature returns, and the healthy characters and functions of the part are restored, without a solution of continuity having taken place."

Around the sphacelated mass is a narrow circle of a florid red hue, which indicates the boundary of the living parts, and announces the establishment of the adhesive inflammation. Ulceration is now established around the inner border of the inflamed skin, and the diseased portion is finally separated from contiguous healthy parts: the portion thus thrown off is called a slough. Coagulable lymph is now effused from the healthy vessels, becomes organized, granulates, and thus closes up the bed opened by the slough, when cicatrization completes the curative process.

Mortification of particular tissues from inflammation.—The skin and subcutaneous cellular membrane are among the most frequent seats of this lesion; the latter being principally affected in the gangrenous stage of erysipelas phlegmonodes, usually consequent upon slight injuries or punctures of the arm in blood-letting. The phenomena do not differ from those above detailed, except when the inflammation is principally confined to the subcutaneous cellular membrane, the part presents a pale glossy aspect. Dr. C. thinks that it would not be transcending the limits established by facts, to consider the destructive progress of this disease dependent upon the rapid and extensive effusion of serous and sero-purulent fluid, by which it is accompanied in its first stage; the increased bulk of the part is most assuredly owing to the liberal effusion of these fluids, and our author believes that the effects resulting from their presence in the interior of the limb are very obvious and afford an explanation of several attendant circumstances; to wit, the rapid progress and termination of inflammation in this texture, in gangrene and sphacelus.

"When we examine a limb in which erysipelas phlegmonodes has gone through its several stages, we find that in the first stage the cellular tissue, situated most remote from the original seat of the disease, is discoloured by the presence of minute vessels distended with dark blood, and contains a considerable quantity of serosity, which is sometimes nearly limpid. As we proceed nearer to the original seat of the inflammation, the quantity of the effused fluids increases to such a degree that the cellular tissue, in which they are contained, appears, from the great augmentation which has taken place in its bulk, to form the greater part of the limb. In this state it feels hard, but when pressed between the fingers it is readily broken down into small fragments, from which there oozes out, in great abundance, a sero-purulent, purulent, and sanguineous fluid. This state of the cellular tissue may be regarded as constituting the second stage of the disease, or a state of gangrene."

While we are much disposed to refer some of the mischief to the pressure resulting from the effusion of serosity in the surrounding parts, yet we cannot overlook the part which the blood itself, in the vessels supplying blood, takes in the development of this form of disease: an inordinate action of the vessels is excited; more blood is admitted than in the healthy state; and by the observations of Kaltenbrunner, the circulation becomes slower. This retardation of the circulation favours the coagulation of the circulating fluid; the continued addition of red particles to the nucleus thus formed, ultimately blocks up the calibre of the vessel, and thus prevents the parts beyond from receiving their necessary supply of blood for nutriment. During this coagulation the serum is constantly

separating and permeating the sheathes of the vessels, and is diffused through the cellular inembrane. Gangrene in this location may either be diffused or circumscribed. In the above disease, erysipelas phlegmonodes, we have an instance of diffused gangrene; and anthrax, or carbuncle, affords one of circumscribed gangrene. As the production of gangrene in the circumscribed forms, is similar to that in the diffused, we shall rest content with what has been said, and pass on to enumerate the other textures exposed to it. Diffused or circumscribed mortification of the submucous cellular membrane, presents very few phenomena different from that of the subcutaneous cellular membrane. When it is diffused it rarely attacks any other seat than the pharynx and larynx; the effusion of albuminous or puriform fluids producing great swelling, gives rise to dysphagia, great difficulty of breathing, or complete asphyxia: hence the fatal issue of the disease before it has terminated in sphacelus.

Circumscribed gangrene in this texture, results from a circumscribed inflammation of the mucous membrane, which, after a given time, involves the subjacent cellular membrane, and not unfrequently progresses so as to involve all the other textures of the intestinal tube. Although sphacelus of the subserous cellular membrane has not often been observed, yet the facility with which the serous membrane is stripped off from the adjacent parts, after the existence of inflammation, indicates a degree of softening approaching to the state of gangrene.

The mucous membrane is by no means so frequently the seat of this lesion as was presumed by the ancients; but yet it is not entirely exempt. The fauces and the intestines are most usually the locations: in the first it is found under the form of cynanche maligna or angina gangrenosa; in the second, as the sequence of inflammation of the tissue itself, as in acute enteritis; or of the follicles located within its structure, as in follicular gastro-enterite. When first deprived of vitality, these textures are of an ash-gray or straw colour, and gradually pass to a deep brown or black.

The serous membranes are rarely the seat of gangrene; and when it does occur, Dr. C. considers it to be dependent upon the diseased state of the subserous cellular membranes, as they receive their blood-vessels through them, and the pathological state does not proceed from the vessels of the serous membrane being overloaded; but, on the contrary, from their not receiving the ordinary supply of blood for nutrition. The colour of sphacelated serous membrane is usually of an ash-gray or ochrey hue; is soft and spongy, and frequently does not emit an odour; the surrounding subserous cellular membrane is finely injected with blood. The dark brown, or black spot of the peritoneum, described by the ancients, is in every respect unlike gangrene, and is very judiciously considered by Dr. Carswell to be melanosis. Gangrene of the fibrous membranes, tendons, cartilages, and bone, is produced in the same mode as in the serous membrane, by the diseased state and ultimate death of the adjacent cellular membrane. In the muscular texture this lesion is almost invariably the sequel of injuries inflicted by violence, and presents no peculiarities. The pulmonary tissue under gangrenous action becomes of a deep red, or almost black colour; increases in consistence; breaks when pressed between the fingers, and yields a dirty-white or greenish fluid, of the consistence of treacle, with a most fetid odour. The sphacelated pulmonary tissue seen under the pleura, is found to sink below the surrounding surface, presenting a yellowish or greenish colour, and when extensive, a mottled aspect, in which many tints are perceived; we may either have it confined to small spots, or diffused over an extensive surface.

State of the Vascular System in Mortification.—It is hardly necessary to say more, than that, after the circulation of the vessels has been excited by the application of stimulating agents, producing inflammation, the blood in the distended vessels ceases to circulate, and the part, from a deep red, assumes a dark brown or black colour; succeeding this is the loss of sensibility, with the entire arrest of the process of nutrition, and the consequent loss of temperature. The state of the vessels, and of the blood which precedes the physical signs of mortification, is that which in England is considered to be gangrene; it is this: the blood ceases to circulate, is coagulated, stimuli make no impression upon the part, and indicate the entire deprivation of sensibility or contractility; yet, under these circumstances, the part may not be wholly dead and irreclaimable—but on the contrary, the blood may again assume its fluidity, and circulate afresh, the precursors of returning sensibility and contractility. When nature is preparing to arrest gangrene, “the circulation becomes more active in the vicinity of the diseased part, the coagulated blood gradually disappears by the separation of its globules and their transmission into the neighbouring currents; absorption is manifested by the more or less rapid removal of the effused fluids; sensation and motion return, and the part is restored to the healthy state.”

One of the most interesting changes in the blood-vessels in the immediate vicinity of a gangrenous organ, is that which nature establishes for its removal and the safe excision of the largest blood-vessels, without producing hæmorrhage. The successive steps are uniform, and highly interesting to physiologists. The blood arrested in the vessels surrounding the disease coagulates, as is well established by the observations of Kaltenbrunner; at the same time, by the revival of the circulation, the adhesive inflammation is established in the serous lining of the vessel, lymph is effused, attaching the coagulation to its inner coat, which ultimately becoming organized, effectually obliterates the tube and arrests the flow of blood; this obliteration extending some distance up the vessel, the ulcerative process removes its coats with the parts surrounding the gangrenous organ or member.

Mortification from a mechanical obstacle to the circulation of the blood.—Whenever a part is deprived of the requisite quantity of blood for nutrition by any cause, the invariable result is its death. This loss of the nutritive material may be ascribable to the arrest of the circulation by mechanical obstructions to the arterial circulation, and may arise from a ligature being placed upon the artery—by coagulated blood—by organized or unorganized fibrine blocking up its calibre; by ossification or ligamentous degeneration of its coats. Obliteration or retardation of the venous vessels may become the effective cause of gangrene, but they operate in a different manner from an arrest of the arterial circulation; for in this case the part is deprived of the blood necessary for sustaining its nutrition. In the other, the obstruction being located in the veins, the diseased part is involved secondarily; the venous blood accumulating in the vessels beyond is gradually coagulating from the stasis produced, and thus, by preventing the blood from passing to the heart, gives rise to a similar accumulation in the veins of the part affected, thereby arresting its circulation, which is speedily followed by coagulation, and a consequent obliteration of its vessels, the ultimate result of which is gangrene. It is unnecessary, after what has been said above, to dwell upon the many causes which, by producing pressure upon the vessels of a part, followed by their obliteration, give rise to mortification; as, for instance, tumours, invagination of the intestines in ileus, strangulation of the bowels, &c. &c.

Mortification from debility.—Mortification has been found to result from an

imperfect nutrition, dependent either upon the loss of the nutritive power in the vessels, or upon the imperfect elaboration of the fluids requisite for the sustenance of the organ involved. Any cause which would tend to prevent the regular and uniform supply of perfectly elaborated blood, must, by interfering with those processes, which must be uniformly carried on for the reparation of the loss constantly occurring in the animal textures, be productive of consequences injurious, perhaps fatal, to their vitality.

There is a form of mortification from debility, which, from my having seen it assume somewhat an epidemic character, attended with great fatality, will be presented to the reader in the language of our author.

“There is one other form of mortification from debility which occurs generally in children, and has received various appellations, such as *noma*, *stomacace gangrenosa seu maligna*, *necrosis infantilis*, *gangrene scorbutique aux gencives*, *wasserkrebs der kinder*, *water canker*, *gangrenous apthæ*. In this form of mortification, the mucous membrane of one of the cheeks presents, in some cases, a small superficial ulcer, without pain or discolouration. Sometimes there may be two or three ulcers. In other cases, instead of an ulcer, a small whitish or yellowish-gray spot appears on the mucous membrane, which sloughs, and gives rise to an ulcer similar to the former, or presenting the same colour as the slough by which it was preceded. Nearly at the same time a greater or less degree of tumefaction of the cheek, opposite the affected part of the mucous membrane, takes place, which increases with great rapidity, and soon extends to the eyelids and lips. The skin of the swollen part is pale and glistening, resembling wax; hard towards the centre of the swelling, and elastic. By and by this part presents a dull yellowish-gray colour, and then becomes black and sloughs; the whole substance of the cheek undergoes the same successive changes, and in the course of a few days, the cheek, lips and eyelids are converted into a solid putrid mass, which, falling off, destroys sometimes nearly the whole of one side of the face, lays open the cavity of the mouth, and exposes the gums in a state of sphacelus, the superior and inferior maxillary bones denuded or necrosed, and deprived of their teeth.”

Mortification from the violent operation of mechanical, chemical, and physical agents.—The mechanical agents which produce mortification are contusions and violent blows, and the phenomena dependent upon this form do not present any peculiarities. The chemical agents are powerfully stimulating substances; as, for instance, nitric, muriatic, and sulphuric acids, which produce death of the part to which they are applied by over stimulation; the period required for them to develop their full effects depends upon the concentration of the acid, the duration of its application, and the vitality of the texture in contact with which it is placed. The physical causes may be said to be extreme heat and cold: when intense heat is applied to the surface of the body, there results a greater or less degree of excitement, a temporary suspension of the functions of the part to which it is applied—that is, it produces inflammation, gangrene, and sphacelus. The rapidity of its progress, the sudden and extensive development of phlyctenæ and bullæ, or blisters, are peculiarities of this form of mortification. The skin is of a yellow, gray, brown, or black colour, hard and dry, sunk below the surrounding surface, and entirely insensible. The effects of intense cold are very analagous to those of great heat, for if the cold be not very intense, the circulation and temperature of the skin are increased; on the contrary, if it be very intense, it may not give rise to any appreciable excitement, but at the same time the vitality of texture may be destroyed.

But, after all, we must consider most of these causes to act indirectly upon the texture, exciting directly or indirectly the vascular system, and thus, by developing inordinate action, introduce that pathological state which we have treated under the head of gangrene from inflammation.

Mortification from the deleterious influence of certain poisons.—The poisonous substances which, by introduction into the system, develop mortification, are either natural or morbid products, derived from the animal or vegetable kingdom. The former is the healthy secretion of some animal, and is termed *venom*;—the latter are the consequences of morbid action in the animal body, under which is generated a fluid, capable of exciting peculiar morbid states of the system, whenever they are introduced into the circulation: the term *virus* is applied to this peculiar substance. I will only mention as instances of the former, the mortification produced by the bite of the cobra di capella, the rattlesnake, and the viper; of the latter, the virus of small pox, of the carbuncle of the plague, and the emanations from the body under certain circumstances becoming the efficient cause of hospital gangrene.

We have endeavoured to condense the views of Dr. Carswell, and to embody, as far as practicable, in the foregoing analysis, all the interesting facts contained in the sixth and seventh fasciculi of his very beautiful work; and it remains for us to add, that these numbers, like those already noticed, are adorned by iconographic illustrations, faithfully executed, of the several forms of lesions described in the text.

A. L. W.

XIV. *Clinique Médicale de l'Hôpital Necker, ou Recherches et Observations sur la Nature, le Traitement et les Causes Physiques des Maladies; précédées de considérations sur l'art d'observer et de faire des observations en médecine.* Par J. BRICHETEAU, Médecin de cet Hôpital, Membre de l'Académie Royale de Médecine, de la Société Médicale d'Emulation, &c. &c. Paris, 1835. pp. 415.

Medical Clinics of the Hospital Necker, or Researches and Observations on the Nature, Treatment and Physical Causes of Diseases; preceded by considerations on the art of observing and relating cases in medicine. By J. BRICHETEAU, Physician to that Hospital, &c. &c. Paris, 1835. pp. 415.

The present is a period eminently characterized by the accumulation of clinical observations, and much valuable information has been collected; yet it is to be feared, that the advantages, in this way obtained, have not been without counter-vailing results; and we think there are too many evidences of the minds of observers having been narrowed down to a simple observation of occurrences, instead of their being devoted to the consideration of great general principles. Facts, in other words, have occupied the mind, in the place of induction. The senses have been engaged, whilst the higher powers of the intellect have been too often permitted to remain dormant. It was the remark of a revered and talented teacher, who filled a large space in the domain of science in one of the most distinguished medical schools of the period, that 'ninety-nine in the hundred of medical facts are medical lies.' The censure was splenetic; but doubtless the mass of false facts on record is large—is overwhelming; yet, since the assertion of that distinguished individual was first pronounced, the accumulation of the results of medical observation has gone on with ten-fold velocity; and the different periodicals, with the *ex professo* treatises on medical clinics, are now so numerous and diversified, that the searcher after great principles of pathology and therapeutics scarcely knows at what point to commence his investigations. Were all the recorded 'facts' registered, and detailed by observers of adequate talent and discrimination, the severity of the task would be greatly diminished;

but unhappily this is not the case, and hence the difficulty with the searcher after truth is often extreme. If, indeed, we reflect on the multitude of cases that have been published in periodicals, which have existed—as might be said of one of them lately discontinued—for upwards of half a century; and on the few—the very few cases which are, at this day, referred to as authorities on any point, we might have our clinical ardour somewhat damped, and justly fear that all our labour might be fruitless, and that, in a few short years, the results may be consigned to that oblivion which has shrouded those of our predecessors. That many, we might say most, of the clinical cases which have been the emanations of recent and present periods, will meet with this fate, is doubtless; but still many will remain, and a spirit of accurate observation, emanating from one or two distinguished teachers of the day, and ramifying amongst their pupils in every part of the globe, will persist after they have passed away. The remarks on this subject of M. Bricheteau, in his preface, are apposite.

“If we compute the number of cases recorded, we find that it is prodigious; but, on examining them closely, we soon discover that they are not all exact and conclusive: hence the necessity of following the advice of Morgagni—not only to count the cases, but to weigh them—*“non enumeranda sed perpendenda sunt observationes.”* It may be here remarked, that many publications of this kind, which daily appear—although obtained from the hospitals and at the bed-side—do not fulfil all the conditions that are desirable. Too often, indeed, pupils not over attentive, or young physicians, still novices in the career of observation, hasten to give them to the world before time and experience have given their sanction to the premature conclusions deduced from them.” p. 5.

Facts are the foundation of true theory—of all great principles—but such facts must be indubitable. The profession has suffered largely from the questionable and the false.

M. Bricheteau announces the work before us as a first fasciculus, which will be succeeded by another, as soon as he has collected a sufficient number of materials, and the chief object of his publication he states to be, to improve our acquaintance with, and to cause us to better appreciate the causes of disease.

His first article is an essay on the Art of Observing and Collecting Cases in Medicine, but it contains nothing novel. The first case is one of the *Risus Sardonius*. It gives occasion to some remarks on the seat of that singular affection, which the author places in the diaphragm; and this, chiefly, because the patient, in the case related, remarked, that compression on the region of the liver did not produce the same result as when it was made on the opposite side. M. Laugier, surgeon to the hospital, introduced his fingers between the liver and the ribs, and strongly agitated the attachments of the diaphragm, when the patient cried out, and laughed in a convulsive manner for some time. It appears to us, however, that M. Bricheteau has not pursued in this case the rules of rigid induction, which he so forcibly inculcates in his first article. Every one admits that laughing, in the healthy state, is produced by the action of the diaphragm; but this is a secondary result: the joyous impression must first be made on the brain, and from that organ irradiations proceed to the diaphragm, and the rest of the respiratory system concerned in the expression, and this whether the laughter is produced by the sight of a ludicrous object, by the titillation of any portion of the cutaneous surface, or, in short, by any of the causes that induce laughter. The same thing applies, we think, to the morbid condition constituting the case in question: the irritation was, doubtless, cerebro-spinal: the great nervous centres being pathologically impressed, in a manner somewhat resembling their condition when the

physiological phenomenon of laughter is induced; and this is rendered the more probable by the fact mentioned by M. Bricheteau, at the commencement of the narration, that the man had been subject to stupor, and to epileptic paroxysms; and, when admitted into the hospital, had so many signs of cerebral congestion, that the house pupil in attendance bled him freely.

At the commencement of his observations on this case, M. Bricheteau exhibits that he is not free from the failing of many of the clinical reporters of the day, in dwelling on generalities, and, indeed, on specialities, which are universally received; and many of which are unworthy of mention, particularly in a work presumed to be mainly, if not wholly, clinical. What can one say to such common-place remarks as the following:—

“Laughing is the expression of gay feelings, reflected in the countenance. The face of man certainly lends a peculiar charm to this manifestation of joy; but we do not think that, from such peculiarity, it can be said that animals are deprived of the faculty of laughing, as modern authors have asserted: it seems to us, on the contrary, that the dog, for instance, is endowed with the faculty in a great degree, and that, as regards expression, it exhibits it elsewhere, in a manner conformable to its organization.”—p. 43.

The history of two cases of scirrhus affection of the œsophagus and pylorus, leads M. Bricheteau to observe, that it is an abuse of terms to place indolent scirrhi of the pylorus, cardia, œsophagus, and even of the intestines, amongst the varieties of cancer. He thinks it more correct to assimilate them to the fibrous substance of the uterus and other analogous transformations, which we are astonished to meet with on the dissection of persons in whom they had never been suspected, because they had never caused any disorder: and he adds, that we ought not to infer, that these kind of lesions must necessarily pass into another state; seeing that they have continued for so long a period, and been subjected to every chance of excitation capable of mastering their transformation. “The texture of a morbid organ,” he concludes, “which has been twenty years in existence, must have long passed its *apogee*: its history is ended: else it could have no end.”—p. 53.

M. Bricheteau gives the particulars of some cases of rheumatism and pneumonia, treated by large doses of tartrate of antimony and potassa. It may be known to most of our readers, that prior to the termination of the last century, the doctrines of Brown were universally embraced in Italy, and they continued in vogue there until Rasori, on the occasion of a petechial fever making its appearance in Genoa, subjected the prevalent doctrines to considerable modification; and, as in most similar cases, ended by embracing diametrically opposite views. Rasori maintained that the greater part of diseases are owing, either to augmentation of excitability or to an excess of stimulus, and he conceived that there are certain medical agents, which possess a peculiar debilitant power, and which act upon the excitability of the frame in a manner directly opposed to that in which stimulus acts upon it. To these agents he gave the name *contro-stimulants*.

Without going farther into this theory, it may be remarked, that the practice deduced from it has added many valuable facts to therapeutics, and not the least of these is—the knowledge that tartarized antimony may be administered in large doses in inflammatory affections, not only with impunity, but with marked advantage. This potent emetic may be given to a great extent during the day—72 grains have been administered in this period—without either producing vomiting or purging; or, if the first doses prove emetic, a tolerance is soon acquired, and the subsequent doses may be followed by no marked effect, except the dimi-

nution of the febrile symptoms. At other times the urinary and cutaneous depurations appear to be largely augmented, and rapid emaciation succeeds to its administration.

The contro-stimulant physicians maintain, that the exaltation of the vital manifestations, in febrile and inflammatory disorders, enable the system to bear these large doses, and they say that the tolerance vanishes with the disorder that communicates it; but this assertion is not confirmed by experience. There is certainly a greater resistance to the action of these agents, as there is to blood-letting, where all is exaltation; but the power of resistance does not cease, although it is diminished when the exaltation ceases. Some individuals, too, never possess the necessary tolerance; so that, with them, the tartrate of antimony and potassa does not exert its contra-stimulant effects, and it would seem that there are, also, what the French term 'medical constitutions,' or epidemic conditions, which forbid its employment. Thus, according to our author, although it was so successfully used in 1831, it could not be beneficially administered at the end of 1832, and the beginning of 1833. Not until the autumn of this last year could it be resumed advantageously. On one occasion it was given in the hospital by the *élève de garde*, during the choleric epidemic. The most violent symptoms supervened, and the patient died of cholera morbus, no sign of which existed before the tartrate of antimony and potassa was taken.

The different phlegmasiæ, acute rheumatism, and pneumonia are those which are considered to have been most successfully combatted by this agent in a large dose.

"Emetic tartar," says M. Bricheteau," should generally be preceded by blood-letting, and commonly it is advisable not to have recourse to the former, unless the latter is insufficient, except in cases in which blood-letting is contra-indicated or impossible, owing to some special circumstance, as happened to me once in the case of a rickety individual, who had no veins proper for phlebotomy. The medical constitution of the season is likewise occasionally opposed to the abstraction of blood: in such cases the tartrate of antimony and potassa is a valuable agent. Recourse may also be had, unhesitatingly, to the tartar emetic, at the very first, when the patient is exhausted by age or other causes, and appears to be too weak to bear the abstraction of blood, or in cases where a positive refusal is given to the proposition for phlebotomy."—p. 79.

Granting, and it would seem it must be granted, that the tartrate of antimony and potassa exerts a sedative agency, it is interesting to inquire into the mode in which such agency is exerted. The salt, it is well known, is one of our best suppurants, when we are desirous of establishing a centre of fluxion on some part of the cutaneous surface, with the view of removing internal disease. Experience, too, has sufficiently shewn that, when given in large doses, it produces pustulation in the mouth and fauces, if not lower down in the alimentary tube. In a case which occurred in the Baltimore Infirmary, during the last summer but one, this effect of the antimonial was strikingly evidenced. Bricheteau, who has administered it largely as a contro-stimulant, says its local action is exerted more particularly on the mouth, tongue and pharynx, where false membranes and pustules are occasioned by it; but these lesions, he thinks, are by no means common. He is of opinion that the lesions, which may be referred with the greatest probability to the use of the salt—although, he admits, they are frequently owing to other inappreciable causes—are injection or infiltration of the sub-mucous tissue of the intestines, and softening of the mucous membrane. In the mouth, considerable inflammation, either pustular or ulcerous, is sometimes observed, which speedily disappears after the discontinuance of the antimony.

Every fact and argument, we think, tend to the conclusion that the contro-stimulant virtues of the tartarized antimony are dependent upon its revulsive properties: but this revulsion is produced in the lining membrane of the alimentary canal, and that when this is accomplished, the exalted actions going on elsewhere become diminished, and more or less nervous and vascular concentration takes place towards the seat of the artificial irritation.

Three cases of tubercles in the cerebro-spinal axis—one being in the medulla spinalis, another in the cerebellum and tuber annulare, and the third in the right crus cerebri—lead the author to infer, what cannot be controverted, that the character of tubercles in the brain are by no means destructive. Every symptom may exist in other chronic affections of the brain and spinal marrow.

Some interesting cases of pneumothorax and vomicae follow, with remarks on their pathology and diagnosis. When Laennec published his researches on pneumothorax, and the fact that one of the symptoms—the metallic tinkling, *tintement métallique*, was a pathognomonic symptom of it, or rather, that it is always present whenever there is a communication between the bronchi and the cavity of the pleura containing fluid—great attention was paid to the diagnosis of pneumothorax. It would seem, however, that the disease is not common. During four years practice at the Hospital Necker, which may be regarded as the great hospital for the consumptive in Paris, M. Bricheteau only saw four cases. The affection is not difficult of detection: the compression of the lung, induced by the admission of air into the cavity of the pleura, prevents the respiration from being heard on the affected side—the metallic tinkling is distinct, and, at times, by succussion, the sound of fluid in the pleural cavity (the *flot hippocratique*) can be clearly heard. When the chest of the subject of one of M. Bricheteau's cases was agitated, a manifest fluctuation was audible at the distance of some yards.—“These two phenomena, (the evidence of air and water in the chest,)” says the author, “may be explained by their mutual existence; it cannot be doubted that the transmission of the fluctuation is owing to the presence of air in the cavity of the pleura, so that whenever we hear the sound (*choc*) of liquid, we may be satisfied that there is pneumothorax.”—p. 116.

The *tintement métallique* exactly resembles the sound made by the rising of a bubble of air produced by blowing through a small tube immersed in water; and it has been conceived that, owing to the fistulous aperture in the bronchus being lower than the fluid in the pleura, the air rises through the fluid, and, as it bursts, produces the sound in question.

The intensity of the *tintement*, according to M. Bricheteau, increases in a ratio with the size of the fistulous orifice, the number of the fistulae, the nature of the parietes of the cavities, &c.; and there are cases in which, instead of the metallic tinkling, or associated with it a kind of extensive *sonorous vibration* is heard, which seems to proceed from the brisk introduction of a strong column of air into a metallic vessel of large size, “This sound,” says the author, “does not resemble the *bourdonnement amphorique*, which some authors say they have met with in pneumothorax, and which they have probably confounded with it. It has appeared to me to be produced by the size and number of the pleuro-bronchial fistulae, by the arrangement of the cavities of the lungs communicating with each other, or being divided into several apartments, and by the cartilaginous nature of the parietes of the cavities.”—p. 119. To this new sign M. Bricheteau gives the name *vibration métallique*, until “a deeper study of the phenomenon allows another denomination.”

Connected with the causes of vomicae of the lungs, M. Bricheteau does not

adopt either of the exclusive views—that they are always produced by suppuration of the parenchyma of the lungs, or that they are always caused by the breaking down of tubercles. He adopts both views in part, being of opinion that they are sometimes produced in one way and sometimes in another. The most dangerous, he says, are those that proceed from the inflammation of the parenchyma of the lungs, “inasmuch as they involve the destruction of a great part of the organ, and more frequently than the others give rise to slow fever, and the accidents inseparable from the absorption of pus.” But this admits of much question. What can be more dangerous than the vomicæ caused by the breaking down of tubercles? We answer, nothing!—and, on the other hand, we know that abscesses form in the lungs in those of sound constitution, and are occasionally discharged, so as to leave the individual entirely well. These are cases in which the parenchyma was inflamed; and as to the absorption of pus, it is not easy to see how this can have any thing to do with the irritative fever, and other symptoms of phthisis. The same symptoms often present themselves in diseases in which there can be no absorption of pus, because there is no suppuration. They are induced by the reparatory efforts set up in the system, whenever it is labouring under great irritability and debility. The hectic fever that supervenes on the discharge of large collections of matter, is produced in this manner.

An interesting paper succeeds, entitled “Considerations, physiological and pathological, on the influence of the heart, and of hypertrophy of the ventricles of that viscus on the functions and diseases of the brain and lungs,” from which we cannot do more than extract the author’s deductions, which he has given in the form of propositions.

“*First.* The energy with which the heart—more or less near to the head—sends the blood to the brain in a state of health, as in disease, exerts an influence on the character and extent of the cerebral functions, and even of the instinctive and intellectual faculties.

“*Secondly.* Hypertrophy of the left ventricle of the heart may produce cerebral congestions, effusions of blood, and attacks of apoplexy, solely by the morbid impulse which it communicates to the blood, and this is far from being uncommon.

“*Thirdly.* The too great impulsion of blood to the encephalic organ may cause laceration of the cerebral pulp, dilatation and rupture of vessels in parts of the brain which receive most of it, a rupture which is easy when the vessels are affected with aneurism.

“*Fourthly.* The essential condition, and, as it were, the *sine qua non* of cerebral congestion or extravasation, in consequence of the hypertrophy of the heart, is the absence of every obstacle to the course of the blood between the left ventricle and the encephalic mass; such as would be, for example, ossification of the sigmoid valves of the aorta, narrowness of the origin of the artery, ossification of the small arteries, &c.

“*Fifthly.* Another condition which favours and accelerates the impulsion and congestion of blood towards the head, and ought to hasten the consequences, is a diminution in the coats of the hypertrophied ventricle. Dilatation produces an opposite effect, by augmenting the size of the heart, and enfeebling its contractile power.

“*Sixthly.* The knowledge of the influence of hypertrophy of the heart in the development of cerebral congestions and apoplexies, is of direct use in practice, inasmuch as it indicates certainly the means to prevent and combat those diseases, as well as to hinder their return.”—p. 213.

In the second section of the article, M. Brichteau draws the attention of practitioners to the effect that may be induced upon the lungs by hypertrophy of the right ventricle, and to the dilatations produced in the right side of the heart from obstructions to the circulation through those organs. The whole paper may be read with useful fruits.

A few cases are next given to shew the advantage of compression in dropsical and other hypertrophies in which this agency may be applied, but we see nothing novel either in the cases or in the reflections which they suggested.

A case of encysted carcinomatous tumour in the right ovary, simulating extra-uterine pregnancy, and the true nature of which was discovered in dissection, is given, chiefly, on account of the existence of the *bruit de souffle*, or bellows' sound referred to the placental circulation in the latter months of utero-gestation. This sound imposed upon M. Baudelocque and others who saw the case. M. Briche-teau suggests that it was produced by the compression excited by the encysted tumour on the abdominal aorta, or one of its principal divisions, a compression which diminished the diameter of the vessel, and hence the shock of the blood circulating rapidly against the parietes of the vessel, and the sound resulting from it.—p. 288.

The remaining articles in the volume are on pericarditis, aneurism, and on the sounds of the heart—on biliary calculi, and an *Eloge* on Pinel; but we see nothing in them deserving of especial notice.

On the whole, the work contains many materials for thinking, and facts and reflections, which add somewhat to our stock of existing knowledge, but it is not calculated to greatly enhance the author's reputation. R. D.

XV. *Principles of Pathology and Practice of Physic*. By JOHN MACKINTOSH, M. D., &c. &c. From the last London edition, with notes and additions, by Samuel George Morton, M. D., &c. &c. Svo. 3 vols. pp. 462-509. Philadelphia—Key & Biddle.

The original object of the present work was, as we are informed by the author in his preface to the third edition, "to provide those gentlemen who did him the honour of attending his lectures, with a text book, in the hope that it might be found useful to them in prosecuting their studies. For some months the sale was confined to his own pupils, and the work was entitled '*Heads of Lectures*.'" Subsequently the author was induced by the advice of his friends to launch the result of his labours before the professional public, under the present title; "trusting that, with all its faults and imperfections, the work would be indulgently received as an humble attempt to establish a pathological system of medicine."

Dr. Mackintosh "wishes his work to be regarded merely as a book of facts, carefully collected and examined;—he lays no claim to be considered more wise, learned, or original, than any other professional man in the enjoyment of similar advantages, and who has pursued the same patient method of investigating disease. He has been very sparing in the introduction of hypothetical discussions, and when he has attempted to explain or establish any point by reasoning, he trusts it will be found for the most part to be strictly inductive."

It is precisely a work of this character that is most wanted, as well by the student as by the great body of the profession; and we are happy to say that the volumes before us, though, perhaps, rather too concise, accord nevertheless very fully with the intention of the author, and furnish a tolerably complete exposition of the leading facts in pathology and practice.

Considered as a whole, the *Practice of Physic* of Dr. Mackintosh is unquestionably far superior to the generality of those systems of practical medicine which have issued of late years from the British press. The author has evidently collated, with considerable care and judgment, those numerous important facts in

relation to the nature, seat, and phenomena of diseases, for which we are indebted to the industry of modern inquirers; while his therapeutical directions exhibit, generally speaking, the influence of the more recent improvements that have been introduced in relation to the selection and adaptation of our remedial agents.

Whilst, however, we consider this amount of praise to be justly due to the work before us, yet, we must confess, that were we prepared to enter into an examination of the individual subjects of which it treats, we should find sufficient matter for criticism; and numerous points, as well pathological as practical, upon which we should be obliged to dissent entirely from the views advanced by the author.

In preparing the present edition, the American editor has endeavoured "to adapt it more particularly to the practice of medicine in this country, by various additions and a few alterations."

He has added a tolerably full exposition of the *physiological doctrine of fever*, as taught by Broussais, Louis, Chomel, and others. This we considered both interesting and useful. We cannot approve, however, of "the liberty" taken by Dr. Morton in omitting "a number of the cases illustrating the treatment of the cold stage of intermittents by venesection;" selecting only "the most striking examples, and such as will best explain the views of the author on this subject." We freely admit that the cases adduced by the author are more numerous than was required to establish fully the points in reference to which they are inserted, and that those selected by the editor are amply sufficient to accomplish this object. But we object, nevertheless, to the omission of any part of the original work. If, in presenting an edition of the work of any author, we are permitted to omit whatever portions of it we may consider unnecessary or superfluous, there is not a little danger of great injustice being occasionally done to the individual whose performance is thus mutilated; while the purchaser is deceived, who receives only an abridgment instead of what he presumed, judging from the title, was the entire work. Although we do not wish to be understood as applying the latter remarks to the present edition of Dr. Mackintosh's *Practice of Physic*, as we are convinced that the majority of readers will be rather pleased than otherwise at the omissions made by the American editor, yet we must deprecate in every instance the practice to which we have reference, as one liable to very great abuses.

The same observations will apply to the chapter upon epidemic cholera, which Dr. Morton informs us, "it has been found necessary to re-write," the author having written it apparently "before he became familiar with the disease from personal observations." Now we should have been much better pleased had the original chapter been retained; such additions being made to it, in the form of notes, parentheses or appendix, as were deemed necessary, in order to present to the reader full and correct views of the disease of which it treats.

"The subject of *raccination*, which was omitted from the original work, is of course introduced in this edition.

"Numerous other additions have been made, both of a pathological and practical character, all of which, with the exception of a few foot notes, have been embodied in the original text, but are designated by brackets, so as to be readily identified. The *appendix* and *index* are also new—the former embracing upwards of one hundred prescriptions, adapted to the practice of physic in the United States."

We have thus presented a very brief, but, we are persuaded, at the same time, perfectly fair exposition of the character of the American edition of Dr. Mackintosh's *Practice of Physic*; and, in conclusion, recommend it strongly to the attention of the profession in this country. The acknowledged talents and opportunities for observation possessed by Dr. Morton, are a warranty for the excellence of the notes and other additional matter furnished by him.

D. F. C.

XVI. *Handbuch der Allgemeinen Pathologie, zum gebrauch bei seinen vorlesungen.*

Von Dr. JOH. WILHELM HEINRICH CONRADI, Königl. Grossbritennisch-Hannoverschem Hofrathe, Professor der Medicin zu Göttingen, der Königl. Gesellschaft der Wissenschaften daselbst, and nehrerem gelehrten Gesellschaften Mitgließe. Fünfte verbesserte Ausgabe. Cassel, 1832: pp. 396, 8vo.

Manual of General Pathology, for the use of his pupils. By John William Henry Conradi, &c. &c.

Handbuch der speciellen Pathologie und Therapie, zum gebrauch bei seinen vorlesungen.

Von Dr. JOH. WILHELM HEINRICH CONRADI, &c. &c. Erster Band. Marburg and Kassel, 1831: pp. 634, 8vo. Zweiter Band, vierte verbesserte Ausgabe. Cassel, 1833: pp. 638.

Manual of special Pathology and Therapia, for the use of his students. By Dr. J. W. H. Conradi, &c. &c.

It is not many months since we noticed the *Handbuch der Allgemeinen Therapia*, or "Manual of General Therapeutics," of Dr. Conradi.* On that occasion we recommended that the department of general therapeutics should be treated in our schools distinct from pharmacology, and that the doctrine of the great general rules for medicinal administration, and the principles on which they are founded, should be deeply impressed upon the mind of the student before he could be enabled or expected to comprehend the application of individual articles to special emergencies.

Similar remarks, we think, are applicable to the departments of general and special pathology. Before the student is prepared to comprehend individual diseases, he ought to be made acquainted with the general pathology of the tissues and organs, and with the great truths of pathological anatomy in the abstract. Reasons of this nature have induced the German schools to admit a department of *general* pathology distinct from the *special*. The departments are separated in the works now before us, and, it must be admitted, with advantage. The "general pathology" is divided into four sections, entitled respectively—"On disease, its causes and phenomena (symptoms) in general; likewise, of its seat, progress, and other general differences,"—"On the simplest and most general morbid changes in the properties of the human body,"—"On the causes of disease in particular,"—and "On symptoms in particular." All these topics are canvassed at length, and the student, after their perusal, is prepared to enter upon the consideration of pathology and therapeutics of individual diseases, or the "special pathology and therapia." The work before us, under this latter title, is occupied in the first volume with the investigation of fevers, inflammations, and cutaneous diseases—a somewhat odd union. The second volume embraces morbid discharges, cachexia, and nervous diseases.

The circumstance of the "general pathology" being in its fifth edition, and the "special pathology and therapia" in its fourth, is a sufficient evidence of the estimation in which the works are held by Dr. Conradi's countrymen. They are both, however, obnoxious to some of the objections which are urged against the "general therapia," and would not, perhaps, prove satisfactory to the American pathological and therapeutical inquirer.

R. D.

*No. XXX., for February, 1835, p. 452.

XVII. *Lectures on the means of promoting and preserving health, delivered at the Mechanics' Institute, Spitalfields.* By T. HODGKIN, M. D. London, 1835: 18mo. pp. 449.

Dr. Hodgkin's lectures, as he states in his preface, are designed for that class of readers for whom the series of publications styled the "*Working Man's Companion*," has been commenced by the Society for the Diffusion of Useful Knowledge; still, as he could not contemplate their being wholly confined to the heads of individuals of that class, he has not rigidly restricted himself to those materials which are exclusively or peculiarly adapted to them.

The various topics discussed comprise four lectures. Lect. 1.—Embracing air, light, cleanliness, clothing, &c. Lect. 2.—The articles of food, solid and fluid. Lect. 3.—Muscular motion, and intellectual faculties. And Lect. 4.—Successive generations, and the education of youth. To these are added an appendix, containing "Hints to a young man coming to London," and a letter on vaccination.

The friends of temperance will have no cause to object to the inculcations of the author: and we are glad to see that he has properly extended his animadversions to intemperance, in solid as well as in liquid food. We daily eat too much, and perhaps there is not a more fruitful source of disease than repletion of this kind. Although a due attention to quantity may fail in inducing the longevity described by the great British poet, *Milton*—seeing that the human frame is exposed to so many morbid influences—it will assuredly tend to the preservation of healthful energy, mental as well as corporeal.

"If thou well observe
The rule of not too much, by temp'rance taught,
In what thou eat'st and drink'st, seek from thence
Due nourishment, not gluttonous delight,
Till many years over thy head return:
So may'st thou live, till like ripe fruit thou drop
Into thy mother's lap, or be with ease
Gather'd, not harshly pluck'd, for death nature."

Throughout the volume Dr. Hodgkin writes as the moralist as well as the physician; and, in the former character, is led to introduce subjects which may be regarded as somewhat inappropriate in a work on the means of preserving and promoting health. In his third lecture, for example, he treats of "cruel diversions," and, at considerable length, on "war," to which his tenets, as a member of the Society of Friends, of course place him in strong opposition. Throughout the whole of the lectures there is a vein of piety and philanthropy, which cannot fail to elevate the author in the estimation of his readers as respects the qualities of his heart; whilst of the excellence of those of his head there are abundant proofs, not only in the volume before us, but likewise in the productions which have already emanated from the same fount.

R. D.

XVIII. *The American Cyclopædia of Practical Medicine and Surgery, a digest of medical literature.* Edited by ISAAC HAYS, M. D., Surgeon to Wills' Hospital, Physician to the Philadelphia Orphan Asylum, Member of the American Philosophical Society, of the Academy of Natural Sciences of Philadelphia, &c. &c. Parts 7, 8, and 9. pp. 336. Philadelphia, April to December, 1835.

We have so frequently drawn the attention of the medical inquirer, in terms of unqualified praise, to the valuable work before us, that we have hardly any

laudatory epithets left unappropriated for the fresh numbers as they successively appear. A sufficient number of parts is now before the public to enable them to form an adequate judgment of the manner and matter of the work; and excellent as these are in all respects, we feel assured, from the intelligence and perseverance of the editor, and the enterprise and liberality of the publishers, that there will be no falling off in the future numbers. Were these guarantees, indeed, insufficient, the responsibility assumed by each writer, in appending his name at the termination of his article, would warrant that every effort of individual zeal and ability would be bent on the object. Perhaps there is no work that has emanated from the American press which has elicited more numerous tributes of approbation on both sides of the Atlantic. In a commendatory notice in the 'London Medical and Surgical Journal,' it is 'strongly recommended to the attention of British practitioners,' and its matter and arrangement are said to be excellent. How different is this from the meagre notice contained in a contemporary publication reprinted in this country—a notice which exhibits on its front, that the author of the paragraph had never examined the number. "It is expected," he remarks, "that this work (the 'American Cyclopædia of Practical Medicine and Surgery') will be comprised in eight volumes, being compiled from the various dictionaries of medicine, English and foreign"! Why the work is expected to be comprised in eight volumes, *being* compiled from the various dictionaries of medicine, &c. &c., the author of the notice does not say, nor do we exactly comprehend the 'sequitur;' but certain it is, that the work is not a mere compilation from other dictionaries of medicine, as will be seen at a glance,—and it is no less certain, that the English Cyclopædia has, on the whole, ministered less to it than any of the others. There is, in truth, in the different articles as much of originality as comports with the nature of the publication. A lecturer, who, in depicting the existing state of a science, would aim at originality throughout his discourse, would surely fail of his object, and would be giving the offspring—too often, perhaps, the cobwebs—of his own brain, instead of a correct history of the science. In like manner, a Cyclopædia article should embody all that is known; and if the writer choose to indulge in his own speculations, they should be clearly and carefully defined. It is only perhaps in such articles that a perpetual reference to authority is admissible. In an *ex professo* essay on any subject intended to instruct, we look for the facts and arguments of the author, and we receive with favour the views which he may adopt of the facts and arguments of others; but if the same subject were to form part of a work like the one before us, it would be well to cite the authorities, in order that the searcher after truth might have an index afforded him as to the authors he might consult in his investigations.

Possessed of these views, we are of opinion, that several very valuable articles in the British 'Cyclopædia of Practical Medicine,' and in the French Dictionaries of Medicine, are not rendered as excellent as they might have been, in consequence of their being mere essays, that are interesting as the results of the observation and reflection of their authors, but no guides to one who wishes to attain readily the views of others.

In these respects the work before us is by no means equal. Proceeding, indeed, as it does from various sources, from individuals, some of whom have been accustomed to draw a part of their information from the fountains in various regions of the globe; and others habituated to rely more particularly on their own powers, such irregularity was to be expected. Mere experience by no means befits

an individual for such a task. Whatever may be the value of the facts which he may have registered, and however he may be adapted to write an excellent practical treatise on any topic of his art, he is not eminently fitted for composing an essay for a 'Cyclopædia.' No experience can compensate for a want of acquaintance with what has been said and done by his professional brethren at home and abroad.

The writers of the different articles in the parts before us are—besides the editor, Dr. Hays—Drs. Coates, Geddings, Dewees, Wood, Griffith, Condie, Mitchell, and Jackson; all practised writers, and of whom it may be sufficient to say, that the articles are worthy of the men, and that they exhibit the ability for which they are individually characterized.

Regarding a work like this, it is impossible to go into any analysis of the particular articles, and it would be invidious to particularize, where all is so meritorious. This, we trust, is the less necessary, as it is to be hoped that the 'Cyclopædia' will be received into the library of every practitioner and student, who is desirous of knowing the existing condition of medical science. The practitioner extensively occupied in the duties of an engrossing profession, finds it almost impossible to keep up with its progressive course. To him such a work is invaluable. It gives him in epitome all that is necessary for his immediate wants, and it informs him of the springs at which he can drink more deeply.

A great portion of the 8th and 9th parts is occupied with the general and special anatomy and the pathology of the arteries, by Professor Geddings. This article alone is well worth the trifling sum paid for the two and even for the three parts. It is elucidated by numerous wood-cuts, which considerably enhance its value. The elaborate article *Anus* is concluded in the commencement of the 7th part; and the 9th terminates with the *Ascites*, by Dr. Condie, which will be continued in part 10.

The 'Cyclopædia' has not been issued with that regularity which is so desirable in the case of all periodicals; but we know that unavoidable difficulties have intervened which may not recur. In every such undertaking, the editor has necessarily to be somewhat at the mercy of his collaborators; and as many of these are extensively engaged in practice, delays are to be anticipated. Every one, however, who stipulates to furnish an article for a work of this nature, should consider his engagement inviolable; and if this feeling were universal, the labours and the responsibilities of the editor would be greatly diminished. The two last parts were issued within a few weeks of each other; and it is calculated that the next part will complete the letter A.

We trust that the publishers meet with all the encouragement which they merit in the prosecution of this important work. It ought not to be permitted to languish; and we speak in all sincerity when we assert, that there is not a work in the whole circle of medical literature which is more deserving of their patronage.

R. D.

XIX. *Historia Económico-política y Estadística de la Isla de Cuba ó sea de sus Progresos en la Población, la Agricultura, el Comercio y las Rentas.* Por DON RAMON DE LA SAGRA, Director del Jardín Botánico de la Habana y Catedrático de Botánica-Agrícola; Botánico Honorario de S. M.; Corresponsal del Real Jardín de Madrid y del Museo Real de Ciencias de París; Miembro de la Real Academia Médica Matritense, de las Médico-quirúrgicas y Económicas, de Cadix y de Murcia, &c. &c. Habana, 1831, 4to, pp. 386.

An Económico-political and Statistical History of the Island of Cuba: or Sketch of its Progress in Population, Agriculture, Commerce and Revenue. By DON RAMON DE LA SAGRA, Director of the Botanic Garden at the Habana, &c.

Although this work, with which we have been lately favoured by the intelligent author, is not, as its title imports, of a medical character, or written by a physician, the first chapter contains statistical details concerning the island of Cuba, which are interesting to the medical philosopher. To some, indeed, that relate to the mean temperature of the Havana, reference was made by Dr. Perrine, in a late number of this Journal.*

Although, as we have said, not a physician, M. de la Sagra has already published a work which was reviewed in this Journal. It, also, was of a statistical character, and consisted of tables illustrative of the mortality produced by the cholera at the Havana, the ravages of which were frightful in the extreme.

On casting our eyes over some of the tables touching the movement of the population at the Havana, we find some anomalies not easy of explanation. In the following, for example, which is compiled from estimates made by M. Prevost, of Geneva, with the addition of the author's observations at the Havana, we observe, that in this city alone, the proportion of the males amongst the illegitimate children is less than that of the females. Granting, that the procreation of males requires more vigour on the part of the parents, the whole table, it will be observed, is strongly in favour of wedlock. It is an old idea, that bastards have more metal and corporeal vigour than children born in wedlock, and Shakspeare, embodying the idea of the times, makes EDMUND say,—

“Why brand they us
With base? with baseness? bastardy? base? base?
Who, in the lusty stealth of nature, take
More composition and fierce quality
Than doth, within a dull, stale, tired bed,
Go to the creating a whole tribe of fops,
Got 'tween sleep and wake.”

It has been attempted of late, also, to show that, in animals the corporeal vigour of the parents has much to do with the future sex, and M. Giron de Bassarigue, from his experiments, affirms, that very young, and, consequently feeblor rams, beget a larger proportion of females, and the older and more vigorous, of males. He asserts, however, that females commonly predominate amongst animals that live in a state of polygamy, and the same fact, it is affirmed, has been observed in Turkey and Persia, in our own species. This may partly explain the reason why the males predominate over the females in greater proportion in legitimacy than in illegitimacy, although it does not appear to us sufficient to account for the whole difference. The estimates are decidedly unfavourable to the

old notion respecting the bastard, to which we have referred. The proportion of females born, it will be observed, is in all cases assumed to be 10·000.

	LEGITIMATE.		<i>Number of Observed Births.</i>	ILLEGITIMATE.		<i>Number of Observed Births.</i>
	<i>Females.</i>	<i>Males.</i>		<i>Females.</i>	<i>Males.</i>	
France,	10,000	10,657	9,656,135	10,000	10,484	673,047
Naples,	10,000	10,452	1,059,055	10,000	10,367	51,309
Prussia,	10,000	10,609	3,572,251	10,000	10,278	212,804
Westphalia, . . .	10,000	10,471	151,169	10,000	10,039	19,950
Montpelier, . . .	10,000	10,707	25,064	10,000	10,081	2,735
Havana,	10,000	10,397	8,213	10,000	9,145	8,039
Tot. number of } Observations, }	. . .	. . .	14,462,097	. . .	. . .	1,027,884
Mean,	10,000	10,549	. . . . .	10,000	10,066	. . . . .

It has been a common topic of remark, that, in every climate, certain months are more favourable for conception than others. Yet, when we inquire into the matter, we find it extremely difficult to deduce any satisfactory theory. Raymond, of Marseilles, Burns, of Glasgow, and the authors of the statistical inquiry, published some years ago in Sweden, favour the idea, that in those countries women conceive more readily in autumn; yet M. Villermé, of Paris, from an estimate founded on eight years' observation in France, comprising 7·651·437 births, makes the ratio of conceptions as follows:—May, June, April, July, February, March, and December, January, August, November, September and October; and Dr. Gouverneur Emerson found that the greatest number of conceptions in Philadelphia, from observations of ten years, ending in 1830, are in April, January, and May; the least in October, August, and September—results which would seem to set all theory at defiance, as it is impossible to conceive that influences of season can be the same—or so nearly the same—as regards the point in question—in May as in January.

At the Havana, according to our author, the monthly number of births amongst the white population, during a period of five years—from 1825 to 1829, inclusive—was in the following order:—October, September, November, December, August, January, March, and February. February, January, March, and April, were, therefore, the most frequent months for conception with the whites; June, July, May, and September, the least so. By taking the white and the coloured population—for a difference is here, again, found to exist—the months of February, January, April, December, March, and November, are shown to be most favourable to conception; June, July, August, October, September, and May the least so, whence M. de la Sagra infers, that the cool months favour conception most; and the warm least. This is confirmed—so far as concerns the Havana—by the meteorological tables to which we referred at the commencement of this notice; but the inference does not apply to other countries.

The greatest mortality at the Havana, is in the months of May, June, July, August, and September, the period at which the yellow fever (*fiebre amarilla*) prevails.

The proportionate mortality in 100 individuals amongst the whites, is 55·1 males to 44·9 females; amongst the people of colour, 51·2 males to 48·8 females; whilst the proportion of the sexes born in 100, is 50·5 males to 49·5 females amongst the whites: and 51·4 males to 48·6 females, amongst the people of colour. It would seem, consequently, that the mortality, amongst the males of the white variety of our species, is much greater than amongst the females; and that, in the coloured population, the ratio of mortality is nearly equal to that of the births in both sexes, (p. 44.) The disproportion of deaths amongst the whites, M. de la Sagra attributes to the yellow fever, which destroys more men than women. In Paris, where the whole number of deaths was, in 1828, 24,299, the proportion of males to females was 1 to 1·1250.

The following table, framed from data afforded by M. de la Sagra, indicates the mortality at different ages, amongst the different classes of the population.

AGE.	PROPORTION IN 100 CASES.	
	<i>White.</i>	<i>Black.</i>
From birth to 10 years	46	41
10 to 20 "	5	15
20 to 30 "	11	18
30 to 40 "	8	9
40 to 50 "	8	7
50 to 60 "	6	4
60 to 70 "	6	3
70 to 80 "	5	2
80 to 90 "	2	07
90 to 100 "	02	02

It would appear from this table, that, at the Havana, more whites than blacks die, of all ages, with the exception of those comprised between 10 and 50. From 10 to 20 the mortality is three times greater amongst the latter than the former. The months of January, February, and March, are most fatal to children: those of July and August to youth, and those of June and August to the aged. This, at least, applies to the whites; and it is applicable to the coloured population, except as regards the aged, to whom the months of November, December, and January are the most fatal.

The deaths during the early days of infancy are frightfully numerous. In the few years recorded, they were as follows:—

	<i>White.*</i>	<i>Black.</i>
From birth to the 7th day, inclusive, . . .	19 per cent.	24
From 7 days to 1 month,	10 "	9
From 1 month to 2,	5 "	4

*Not of the whole number of deaths, but of the deaths in the first ten years.

	Whites.	Blacks.
From 2 months to 3,	8	4
From 3 months to 1 year,	24	23
From 1 year to 3,	21	19
From 3 to 10,	13	17

The great mortality during the first seven days, is caused by the *trismus nascentium*, appropriately termed by the Spaniards, *mal de los siete dias*—"disease of seven days." The greater mortality amongst the black children, is, doubtless, owing to the want of due attention to their comforts and to their greater exposure to atmospheric vicissitudes. The mortality under one year of age, compared with the whole mortality, is, at the Havana, about 1 in 31; whilst, in Baltimore, it is not more than 1 in 24, and in Philadelphia, about 1 in 23.

The researches of Villermé and Milne Edwards, in France, and of Trevisan, in Italy, exhibit, that in those countries the influence of depressed temperature has much to do with the number of deaths in early infancy. They found that of 100 children born in the months of December, January, and February, 66 died in the first month; that of 100 born in the spring, 48 survived the first year, whilst of 100 born in the summer, 83 lived more than a year.

The deductions of these gentlemen regarding European countries would not apply to the Havana nor to our cities, in which, during the first two years, the cholera infantum, a disease manifestly connected with elevated temperature, is so destructive. Amongst the white, at the Havana, the monthly difference is not great; and, as respects the coloured population, the months of June, March, and February, months differing essentially from each other, exceed the rest.

OF THOSE BORN IN	THERE DIED IN THE FIRST MONTH OF EXISTENCE.	
	Whites.	Blacks.
January	11	17
February	12	19
March	11	24
April	14	16
May	10	17
June	12	26
July	11	15
August	13	15
September . . .	13	16
October	10	15
November . . .	13	17
December . . .	10	14

The mortality amongst the white population at Havana, is estimated, by the author, at 1 in 25; amongst the coloured 1 in 20; the mean being 1 in 22.6—a mortality twice as great as that of Philadelphia.

R. D.

XX. *Observations on the influence of Religion upon the Health and Physical Welfare of Mankind.* By AMARIAH BRIGHAM, M. D. Boston, 1835. Duo. pp. 331.

On a former occasion, (vol. iv. p. 467,) when noticing a production ("upon the Influence of Education and Moral Cultivation on Health") by the author of the work, the title of which is at the head of this article, we pronounced him to be a sensible writer, and we conceive his present production to afford confirmation of the justness of the opinion previously expressed. But in exposing the delusions to which the human mind is subject, he has encroached upon the prejudices of so many sects, that he incurs the hazard of a nest of hornets about his ears. Any one, however, who may attempt to contest his views will, we think, find it much easier to deny than refute them.

Let it be understood, that our author writes in the spirit of one who entertains a profound respect for the religious sentiment, and whose only object is to examine with candour and honesty such forms, ceremonies and customs, as appear absurd in the eye of reason, and productive of evil effects of a moral or physical character. The first portion of the work treats of religions, and forms of religious worship that have long since passed from observance among civilized communities, a view which leads to the interesting conclusion—"that religious customs and institutions are changeable and progressive, and have constantly improved, and been rendered more useful to mankind, as civilization and knowledge have increased."

We like the strain of his reasoning upon the force exerted by the moral powers in correcting depraved habits; a correction which cannot take place to any considerable extent, or with permanent effects, unless the intellectual and moral powers have attained a certain degree of cultivation. "Preach temperance and the government of the animal passions to Savage tribes, and what would be the result? Not much more gratifying than if you preached to brutes. But educate them, call forth and strengthen by exercise the moral powers inherent in their nature, and then they will hearken to your instruction—many will strive to obey you, and some will succeed."

"Hence," continues he, "all great reforms in the moral world are not the result of the sudden efforts of one or more leaders; but are the result of long and previous instruction of the mass of the people. Luther could not have succeeded in the century previous to his time; and the friends of the *temperance cause*, as it is called in this country, would have toiled in vain half a century before the present age. Now, their success is the result, not wholly of their labours, as some suppose, but of the improved state of society."

We have always been of the opinion, that the Temperance Societies in our country have ascribed rather more efficacy to their labours than they were actually entitled to, and have been sorry to observe so good a cause injured, as we think, by the introduction of fanatical notions. Time was within our own recollection, and that refers to no very distant period, when it was considered among the ordinances of common hospitality on the one side, and good fellowship on the other, that each gentleman at a feast should be tasked with the "punishment" of at least one bottle, it being the duty of the host to insist, and of his guests to drink. And why is it not so in the present day, when each guest is permitted to drink or not drink, as he pleases; and when it is regarded as *contra bonos mores*, for the host to insist or press his company to drink. Is this, we would candidly inquire, solely attributable to the efforts made in the temperance cause? By no means; for the favourable change in manners commenced, to our certain knowledge, before

a Temperance Society was instituted in this part of the country; and was the result of what is tritely denominated, "the march of intellect," and the healing agency of good sense. It is this last, which when untrammelled and brought into fair play, leads, by a little reflection, to the conviction, that the pleasures of intellect highly transcend those of the grosser senses. The mind being once cultivated to a degree which enables it to appreciate the valuable resources of science and literature, or estimate the pleasures of refined social intercourse, will acquire a distaste for every animal indulgence which clouds its faculties, and thus interferes with its enjoyments. These observations are of course chiefly applicable to the more respectable classes of society. In the humbler walks of life, rules and restrictions are doubtless of more consequence and greater efficacy, and it is for reform accomplished among these that we are willing to accord the full meed of praise to the advocates of temperance, so long as they adhere to the letter, and are not *forced* by *indiscreet* zeal beyond the bounds of reason. We may say of this cause and of the cause of sound religion and morality, that it hurts us to see them suffer and lose ground from the intemperate spirit, fanatical delusion, bigotry and intolerance so often manifested by their professed advocates.

Touching the subject of religious delusion, we find an admirable analogical illustration, furnished by clerical authority. It is in the following quotation from an Essay upon "the Influence of the Imagination on the Nervous System, contributing to a false hope in Religion," by the Rev. Grant Powers, A. M., Pastor of the Congregational Church, Haverhill, N. H. After referring to the phenomena produced by Animal Magnetism, Mr. Grant observes—

"Now, in view of what has been adduced to show the astonishing influence of the imagination over the human system, let us suppose that Mesmer and Delson had been ecclesiastics; that they had inculcated the idea on this class of persons, that religion in a high degree produced similar effects upon the human body; and that without religion they must be damned;—suppose they had endeavoured by all possible means to excite their apprehensions, to raise the animal feelings, and by hurried, boisterous, and long addresses, they had kept their minds strained intensely for hours in succession, yea, whole days and nights; and have we not reason to believe that similar effects would have followed? and when one had exhibited these symptoms, another, and another would do the same? Such a result would be natural, as in the case of animal magnetism: especially, if when one arose from the paroxysm, he was taught by those whom he considered his superiors, to believe that he emerged from a state of endless condemnation to a state of justification, life and peace; and should hear his conversion proclaimed by a multitude of voices, and should join his own, also, to the quire, in a song of praise for his deliverance. And as these affections would be involuntary and real effects, the subjects of them would ascribe them to the supernatural influence of the spirit of God, and the deception might be fatal."

But, thanks to the progress of mental cultivation and the influence of good sense, the subjects of religious delusion and monomania are every year becoming fewer, and as to animal magnetism, its age has evidently gone by. Witness the attempt lately made in this city by a French adept, who, among the ignorant and weak subjects which crowd our Alms-house, could only find one silly creature whose nervous system was not proof against the effect of his ridiculous system of pawing and grimace. He found,—thanks to our general intelligence,—that he could not impose upon the imagination, and thus promote a flow of blood to the brain sufficient to produce a propensity to drowsiness or somnambulism, and that consequently the trade in animal magnetism would not thrive in this part of the trans-atlantic world; whereupon, like a shrewd observer and man of business, he took to another branch of the healing art, in which, by dint of puffing, and professing to make cures in certain cases, without either mercury or more nauseous balsam copaiva, he has in a little time elevated his name higher

than any other empiric among us—literally on the house-top. All this shows that, although the state of mental culture in our locality is such at present as to resist some of the deceptions attempted upon the mind, there are others which it is not yet capable of resisting. We have always regarded it as highly complimentary to the general intelligence of our city, that the Thompsonian follies and perilous administrations of stewings and “Number 6,” together with the species of medical monomania called the Homœopathic system, have made fewer inroads among us than in most other places. Let these and the like impositions upon human credulity, seek for a refuge in the haunts of ignorance and Mormonism.

But, alas! for such sensible writers as Dr. Brigham and others, who have treated of the deceptions and delusions practised upon individuals or communities by themselves or others, their writings seldom or never reach those for whose good they are mainly intended. Such as have a thirst after knowledge sufficient to lead them to the attentive perusal of books, are rarely the subjects of serious delusions. And, for ourselves, we might inveigh against quackery till doomsday, all to no purpose, so long as the human mind remains to a certain degree in an uninformed state. This is rather a melancholy view of the subject, but it is, we are convinced, the true one. Empiricism must flourish until the mass of the people are educated to a point or stage above it.

It is undoubtedly “a great evil under the sun,” that so few of the clerical profession are acquainted with the just relations subsisting between the physical organization and intellectual manifestations. Were they endowed with more knowledge upon this subject they would be able to comprehend how certain conditions of the body and mind, now traced by them to celestial visitations, can be readily referred to the ordinary operations of well known moral and physical agencies. They would also be better qualified to judge how far they might push their zealous efforts without endangering the health of the delicate and excitable nervous textures upon which their impressions are primarily directed. To these we would especially recommend the following passage from Dr. Brigham’s Treatise:—

“That the clergy, very generally, are actuated by a sincere desire to do good to their fellow men, I do not intend to question. From my own observation, I believe this is the case. But, “so essential is *knowledge* if not to virtue, at least to all the ends of virtue, that, without it, benevolence itself, when accompanied by power, may be as destructive and desolating as intentional tyranny.”*

“Owing, therefore, to a want of knowledge of the brain and nervous system, and of their intimate connexion with all the operations of the mind, the clergy have often done great harm; though I believe they have been actuated by the very best intentions—with an ardent desire to do good to their fellow men. They do not appear to have known, or to any practical extent believed, that when they strongly excite the feelings of their hearers, they excite and increase the action of one of the most delicate and important organs of the body—one on which all the manifestations of mind are dependent—and one exceedingly liable to be injured by excitement. I cannot believe—when I have witnessed the anxiety which they have exhibited about the evils which intemperance in eating and drinking may entail upon the body—they were conscious that *they themselves* were often exciting, stimulating and exposing to injury, the brain—the very organ of the intellect, and one of extreme delicacy. I cannot believe, when they publish to the world accounts of *revivals*, and describe the mental distress, the intense sorrow, the groans and tears of their hearers at such times, and tell us that the “agony they then witnessed can never be told,”—that they are conscious of furnishing evidence of a dangerous excitement of the organic systems of their hearers, and

*Dr. Brown’s Lectures on the Philosophy of the Human Mind.

one that may cause the most pitiable suffering for life, and be transmitted to succeeding generations.

"But such is the fact. *The brain acts as really when impressions are transmitted to it, as the stomach does when aliments are received into it.*"*

We cannot pretend, with our present limits, to notice even in a superficial manner all the interesting physiological topics treated of by Dr. Brigham, to whose little book we therefore refer all those interested in such subjects. G. E.

XXI. *Elements of Medical Jurisprudence.* By THEODORE ROMEYN BECK, M. D. Professor of the Institutes of Medicine and Lecturer on Medical Jurisprudence in the College of Physicians and Surgeons of the Western District of the State of New York, &c. &c.; and JOHN B. BECK, M. D., Professor of Materia Medica and Medical Jurisprudence in the College of Physicians and Surgeons, New York, &c. &c. Fifth edition: 2 vols. 8vo. Albany, 1835.

It was with no slight pleasure that we hailed the appearance of another American edition of the *Elements of Medical Jurisprudence*—not only on account of the high opinion we entertain of the work itself, but also because it is a proof that the subject is at last beginning to attract that attention it so richly deserves. The apathy and even wilful neglect with which it has so long been regarded, will, we most sincerely hope, be speedily replaced by a proper appreciation of its paramount value and importance to all classes of the community.

It would be a work of supererogation at this time to enter on a review of these volumes—their merits are too well known; and the high rank which has been universally awarded to the author, is too well established to require our aid in their support.

The present edition, although only the second which has appeared in America, is, in fact, the fifth—the others having been published in Great Britain, with valuable notes by Drs. Darwall and Dunlop. It is by no means a reprint of the first—with those slight and often unimportant additions usually to be found in the successive editions of treatises on even the most important subjects—but may almost be considered as a new work. Dr. Beck states that in preparing it, he found that an amount of labour was required equal to that originally bestowed upon it. In fact, almost every chapter has been carefully revised, and a series of important references appended to them, added to which, two essays have been added; on insurance on lives and medical evidence. The work, as now presented to the public, may be truly considered as the best on the subject—not only from the intrinsic merit of the opinions of the author, but also as presenting a condensed view of the numerous and highly important additions that have been made to the science within the last ten years.

The copious references to cases and decisions we consider as of the highest value, more especially those which have a direct bearing on our different laws, and display an industry on the part of Dr. Beck that has rarely been equalled. The two new chapters are a useful addition to the work, and will amply repay an attentive perusal.

In conclusion, we feel that it would be superfluous in us to recommend this treatise to our medical brethren, as we are satisfied that, long ere this, most of them have been enabled to judge for themselves of its merits. R. E. G.

*See Londe—*Gymnastique Medicale*—a very valuable work.

QUARTERLY PERISCOPE.

FOREIGN INTELLIGENCE.

ANATOMY.

1. *Professor Panizza on the communication between the intercostal and spinal nerves.*—The communication between the intercostal and spinal nerves has long been a subject of dispute among anatomists; some asserting that the intercostal only unites with a filament of the anterior root of the spinal nerves; others, on the contrary, that it unites with the posterior root; while others again maintain that there is union with the filaments of both nerves.

Such discrepancies can only arise from one of two causes—either that the law of communication is not constant, in the various modes above stated, or more probably that the inquiries have not been conducted with all the necessary care and accuracy. Now as the point of communication between the intercostal and the spinal nerves varies in different subjects, taking place in some close to the spinal ganglion, whilst in others it is at a greater or less distance, so there can be no doubt but that, in order to throw light upon this controversy, it would be convenient to take for examination those instances where the union is near to the ganglion, rather than others where it takes place at a distance; because in the former the two filaments of the roots being still ununited, the insertion of the branch of communication is manifest; whereas in the latter, the same filaments being already interwoven in a thousand directions, it becomes exceedingly difficult, if not impossible, to certify to which this said branch unites itself. By repeated observations, Panizza has convinced himself that both the roots of the spinal nerves take part in the communication with the intercostal. The celebrated Scarpa made this known fifty-four years ago, in his “*Anatomicarum Annotationum*,” lib. i. sect. 11, p. 18, in these words:—“*Vidi autem in quolibet nervo spinali fila quædam anticæ radicis, quædam posticæ paulo infra ganglion a trunco spinali abscedere et versus ejus anteriorem faciem in unum ramum communi involuero membranaceo vestitum convenire, qui intercostalem denique accedebat.*” The observations of Soemmering agree with this, and he thus expresses himself (*De Corporis Humani Fabrica*, vol. iv. p. 148):—“*Posterior nervorum spinalium radix formato ganglio cum priore radice in unum nervum colligitur, ut ad formandum nervum sympathicum ambæ radices et posterior et prior conferant. Nonnumquam re festinantius explorata, ramis ex priore radice potissimum oriundis, constructus videtur, curatior autem disquisitio hunc opinionem refellit.*”

In the Anatomical Museum of the University of Pavia, there are preserved the preparations which clearly demonstrate the fact that the filaments of communication of the intercostal with the spinal nerves are partly joined to the anterior and partly to the posterior root.

With respect to the opinion hitherto prevalent amongst anatomists, that the branches of the first cervical ganglion of the intercostal, which ascend along the carotid artery and enter the cavernous sinus, communicate with the sixth pair of the cerebral nerves, Panizza maintains that such opinion is not quite correct. From repeated dissections he affirms that these branches of the intercostal, without the least communication with the sixth, merely attach themselves and wind themselves tightly round the nerve; so that by careful manipulation these branches may be detached from the nerve without any lesion of continuity.—*London Med. Gazette*, 26th Sept. 1835.

2. *Professor Panizza's experiments upon the seventh or communicating nerve of the face.* We derive the following account of the experiments from the same source from which we have taken the preceding notice.

The horse and the rabbit were the two animals upon which Professor Panizza performed the section of the communicating facial nerve, considering them as most suitable on account of the great mobility of their lips and the synchronous motion of the nostrils, with that of respiration, being very evident in them. Having made a suitable incision in the skin of the rabbit, from the root of the zygoma to the angle of the jaw, and having cut down to the masseter muscle, the nerve is seen resting transversely on this muscle, and in front of the anterior edge of the parotid. The nerve being exposed, and a blunt pointed curved needle being passed under it, the nerve is thus insulated from the muscle, and then divided with a sharp pair of scissors. The following occurrences are then observed:—

(1.) That the corresponding nostril, as well as the lip, remain inclined and drawn towards the opposite side. (2.) The nostril, instead of being moveable according to the rhythm of respiration, remains closed and motionless, except that a certain motion of the entire cartilage of the nostril is observed, which is probably transmitted from the other nostril, where the movements are most manifest.

The communicating facial nerve of the opposite side was then divided, and immediately the nostrils and upper lip fell into a complete and permanent state of immobility. Nevertheless, sensation remained uninjured, so that when the upper-lip was touched with a needle the animal was instantly annoyed by the pain. This proof of sensation was equally manifested when the division of only one nerve was made, whether the prick was made on the side where the nerve was divided, or on that which was undivided. Having properly secured a horse, and made an incision from the most prominent part of the zygoma towards the angle of the jaw, in a line parallel to the posterior margin of the ramus, the facial nerve is very soon exposed, at first covered by the anterior edge of the parotid gland, and then divided into two branches it traverses the masseter muscle. A curved needle and thread is to be passed under both branches, and care must be taken to divide both without wounding the artery between them. The animal gives signs of suffering at the moment of division of the nerves, and the following effects are then observed:—A total absence of motion of the corresponding nostril and part of the lips, which become pendulous and inclined towards the opposite side: this is very observable in the lower-lip. The division of the nerve of the opposite side is then to be made: this occasions pain, and all motion of the nostrils ceases, although it was particularly manifest in Panizza's experiment before the operation, because the horse was short-winded.

The ingress of the air in inspiration became so difficult that it appeared as if the animal would be suffocated; which certainly would have happened if it had not been killed. The lips were paralysed and pendulous, so that all the incisor teeth of the lower jaw were exposed to view; nevertheless, the sensibility of these parts remained most acute.

The great sensibility which the animal shewed, both upon touching and dividing the facial nerve in front of the parotid gland, led to the suspicion that some communication between it and the fifth pair must exist. After having examined the nerve from this point of division, as far as the foramen stylomastoideum, it was discovered that beneath the parotid gland a large branch of the third division of the fifth was united to the facial nerve, so that the section of this latter at the usual point included that of the former. In all subsequent experiments care was taken to perform the division of the facial nerve before its communication with the fifth: this operation is extremely difficult and delicate, on account of the number of considerable veins which are collected together beneath the parotid

gland and around the nerve. This same communication between the two nerves takes place also in the rabbit, the dog, and the ox: it is impossible to make this division of the nerve on the rabbit, on account of the fatal hæmorrhage, but with care it may be performed on the horse.

The animal gives no signs of pain in the division of the communicating nerve of the face at this point. The loss of muscular power of the nostril and lips of the wounded side is immediate and striking; and when the nerve of the opposite side is divided, there is complete paralysis of the nostrils and lips, which hang pendulous, and the respiration becomes embarrassed on account of the closure of the nostrils.

Professor Panizza describes the effects of the division of the branch of the fifth pair, upon its emergence from the infra-orbitary foramen on both sides. These effects were, pain produced by the division of the nerve, and a complete loss of sensation of the parts around the nostrils and of the upper-lip; nevertheless the motion of these parts continued. The motions of the nostrils remained perfect, but those of the upper-lip were no longer regular, nor adequate to the prehension of the food, nor to co-operate in mastication nor drinking. The reason of the difference between the effects which are observed in the motions of the nostrils and those of the upper-lip, after the loss of sensation from division of the fifth pair, is (according to Panizza) that the movements of the first are, as it were, associated with a series of instinctive motions, which are accomplished independent of the will; whereas the second, being voluntary, ceases to be regular as soon as the influence of the will ceases in them; and this influence must necessarily become less in a part which no longer feels the contact of bodies, and is itself no longer felt.

If, however, the branch of the fifth united to the facial nerve remains undivided, when the animal thrusts his muzzle into the water, on account of the remaining sensation above the upper-lip, he will drink, although the lip itself be perfectly insensible.

PHYSIOLOGY.

3. *On the Changes produced in the Composition of the Blood by repeated bleedings.*

By THOMAS ANDREWS, Esq.—The object of the following experiments is to determine with precision the changes which are produced in the composition of the blood by repeated abstractions of large quantities of it from the general circulation. In the human subject, opportunities seldom occur of procuring proper specimens for examination, although the operation of venesection is so frequently performed; as in those cases where it requires to be repeated at short intervals the blood is generally in a morbid state. Instead of waiting for such casual occasions, I directed my attention to those animals in which the composition of the blood is nearly the same as in man, conceiving that similar results would in either case be produced. I selected the blood of calves for the purpose of experiment; and as it is the practice of butchers in this country to bleed these animals several times before they are slaughtered, I availed myself of this circumstance to procure suitable portions of blood. The animal is bled from a large orifice in the jugular vein, till symptoms of syncope appear, and the operation is in general repeated at intervals of twenty-four hours. It is once fed between each operation upon a mixture of meal and water, but this is often omitted before the last bleeding.

The appearance of the blood becomes greatly altered by the successive abstractions; the crassamentum is at first very large, and a portion of the red globules are unattached to it, but it progressively diminishes in bulk, while its consistency increases, till upon the fourth bleeding it appears a small contracted ball immersed in a large quantity of serum, adhering to the stopper of the vessel in which it is contained, and presenting on its external surface an exact cast of the interior of the vessel.

The following analyses were performed by the same method that I formerly employed in a set of experiments on the blood of cholera patients, which were published in the *Philosophical Magazine* for September, 1832. They are nearly

all a mean of two separate analyses, which seldom differed from each other more than 0·5 per cent.

A calf was bled four times; between the first and second bleedings a week elapsed, but the rest took place at intervals of twenty-four hours, and the animal was fed between each operation. The composition of the serum and blood at each bleeding is exhibited in the following tables:

SERUM.

	FIRST.	SECOND.	THIRD.	FOURTH.
Water	92·19	93·96	93·81	94·18
Albumen and Salts . . .	7·82	6·04	6·19	5·82
	100·00	100·00	100·00	100·00

BLOOD.

	FIRST.	SECOND.	THIRD.	FOURTH.
Water	81·36	85·49	87·41	89·25
Albumen and Salts . . .	6·89	5·50	5·77	5·52
Red Globules and Fibrin	11·75	9·01	6·82	5·23
	100·00	100·00	100·00	100·00

The serum had at the third bleeding a specific gravity of 1·020, and at the fourth, of 1·017. At the third bleeding, the specific gravity of the blood itself was 1·031.

The next calf whose blood was examined was nine weeks old. I did not procure any blood from the first bleeding. The third bleeding was twenty-four hours after the second, and during that period the animal was once fed; twelve hours afterwards it was bled a fourth time, but it received no more food:

SERUM.

	SECOND.	THIRD.	FOURTH.
Water	93·32	94·39	94·59
Albumen and Salts	6·68	5·61	5·41
	100·00	100·00	100·00

BLOOD.

	SECOND.	THIRD.	FOURTH.
Water	82·05	89·14	88·92
Albumen and Salts	5·85	5·29	5·06
Red Globules and Fibrin	12·10	5·57	6·04
	100·00	100·00	100·00

The albumen and salts, it is evident, decrease at each bleeding; the diminution is, however, very variable, and even after the fourth time does not amount to one per cent. and a half. In the globules, the same diminution takes place, but to such a degree that they are at least reduced to less than one-half their original quantity. To this principle a remarkable exception occurs in the composition of the blood taken at the last bleeding of the second calf, where the globules are slightly increased above the preceding analysis; but it will be observed that the animal received no food during the intervening period, from which the blood might obtain a fresh supply of serum, while the tendency of the different excretions of the animal was to drain from the circulating mass its aqueous part, and thus to increase the apparent quantity of the globules. This explanation is confirmed by the following analysis.

A calf, three weeks old, was bled twice before it was killed; twelve hours elapsed between the two bleedings, during which time it obtained no food:—

SERUM.

	FIRST.	SECOND.
Water	92.48	93.35
Albumen and Salts	7.52	6.65
	100.00	100.00

BLOOD.

	FIRST.	SECOND.
Water	82.48	83.47
Albumen and Salts	6.70	5.95
Globules	10.82	10.58
	100.00	100.00

The globules have here, it is true, diminished at the second bleeding, but so slightly, that we may attribute this circumstance to the unassimilated chyle which must have been present in the system. In the former case, the animal had been exhausted by previous depletions, and hence possessed no store from which the blood could derive even a small portion of serum, as in the latter instance.—*Records of General Science.*

4. *Researches on the Blood.* By L. GMELIN and F. TIEDEMANN.—Observers have differed with regard to the presence of carbonic acid in the blood.

Vogel found that under the receiver of an air-pump, lime water was acted on by the disengaged carbonic acid.

Scudamore obtained in the same way, by means of barytes water, a precipitate of carbonate of barytes, equivalent to $\frac{1}{2}$ or $\frac{1}{2}$ cubic inch of carbonic acid gas, from six ounces of blood.

Brande procured from one ounce of arterial or venous blood 2 cubic inches of carbonic acid.

On the other hand, Darwin could detect no such acid; and Dr. Davy asserts that it is neither extracted during the spontaneous coagulation of the blood, nor by the air-pump, nor by coagulating the serum by heat, and that serum absorbs carbonic acid in greater quantity than pure water, which would not be the case if it was charged with carbonic acid.

Gmelin and Tiedemann examined with great care the blood of a dog taken from

the femoral vein and artery, and placed in different tubes under the receiver of an air-pump. The result was that neither carbonic acid nor any other permanent gas was extricated. To ascertain the accuracy of Davy's statement with respect to the absorbing power of blood being greater than that of water, carbonic acid was allowed to stand over arterial blood for five days, when it was ascertained that 100 measures of blood absorb 120 of carbonic acid. The coagulum appeared blackish-red, and the liquid portion was extremely clear.

Since blood contains no free carbonic acid, it was necessary to ascertain whether any existed in it in a combined state. Vinegar was added to each of the kinds of blood which had been collected, as in the former experiments, with every precaution to ensure accuracy, and was placed under a receiver. A quantity of carbonic acid escaped from both, more abundantly from the venous than the arterial. The arterial blood mixed with vinegar, as well as the venous blood, left over mercury for three weeks, was converted into a blackish brown mass, without being separated into serum and coagulum. About the same period, without a knowledge of the Heidelberg experiments, Ed. Ch. F. Stromeyer obtained the same results.

How do these facts agree with the present theories of respiration?

Lavoisier conceived that without coming in contact with the respired air, a liquid consisting principally of carbon and hydrogen is absorbed through the pulmonary membranes into the bronchi, and is converted into carbonic acid and water through the oxygen of the inspired air. As this theory does not render it necessary to suppose free carbonic acid in the blood, it is not at variance with the observations of Gmelin and Tiedemann, but the passage of gases into moist animal membrane, and also the immediate contact between air and blood, cannot be well doubted of. Davy inferred from his results that air passes through the moist coats of the pulmonary vessels, and is taken up by the serum, the oxygen partly forming with the carbon of the eruer carbonic acid, and partly combining with the eruer. When he found that after the inspiration of hydrogen some carbonic acid was expired, though much smaller in quantity than after the inspiration of air, he concluded that venous blood contains some free carbonic acid. According to the observations already given, it appears that the arterial and venous blood contain no free acid, but carbonic acid combined with alkali. And if we suppose acetic acid to be formed in respiration, (for we find it in the blood and in most organic liquids which are exposed to the influence of air in combination with alkalies,) then must the venous blood contain more alkaline carbonate than the arterial, when by the formation of acetic acid a portion of the alkaline carbonates will be converted into acetates.

By means of a barytes solution in an exhausted receiver, they estimated that 10,000 parts of arterial blood contain 8.3 of combined carbonic acid, and 10,000 parts of venous blood 12.3 of acid in the same state, being in the proportion of 2 to 3.

They sum up their views of respiration in a few propositions:—

1. That in the pulmonary cells, inspired air is absorbed into the moist membranous vessels, and is thus brought in contact with the blood.
2. The azote of the air is not sensibly absorbed by blood, but almost the whole of it remains in the cells. On the contrary, as oxygen is taken up by the blood abundantly, it flows out of the cells into the vessels in proportion to its absorption, and the mixture of gas remaining in the lungs, must therefore contain more azote and less oxygen than the air.
3. The oxygen taken up by the blood combines partly with carbon and hydrogen, and forms carbonic acid and water, and partly unites with the solid organic compounds contained in the blood. From these proceed acetic or lactic acid, which combines with a portion of carbonate of soda contained in the blood, and drives its carbonic acid into the cells.
4. The acetate of soda loses, in its course through the different secreting organs, its acetic acid, combines again with carbonic acid, after undergoing many decompositions in its passage with the mass of blood through the body, and enters into the lungs on its return as carbonate of soda.

Is urica contained in the blood after the extirpation of the kidneys?

The authors directed their attention to this point; which it is well known has been decided in the affirmative by Prevost and Dumas, (*Ann. de Chim.* xxiii.)

On the 14th January, 1832, the right kidney of a dog was removed, and in fourteen days the wound healed.

The left kidney was cut out on the 11th February, and on the 13th the animal died. The substances taken from its body which were subjected to examination, were—1. The liquid vomited; 2. The blood collected from the great vessels, amounting to two ounces; 3. The bile; 4. The contents of the small intestines. All these substances were dried separately on the water-bath, and digested with hot water. The filtered liquid was precipitated by acetate of lead, and the lead removed by carbonate of ammonia. The fluid was evaporated to dryness, and treated with absolute spirits. The residue, after evaporation, was dissolved in a little water, and evaporated with nitric acid in a glass tube. The solution from the blood produced, with a drop of nitric acid, a yellowish, white crystallized precipitate, which was collected on a filter, washed with cold water, and dried. A portion of it heated in a platinum spoon left a trace of carbon; another part, heated with potash, disengaged no ammonia. A third portion was heated with water and carbonate of barytes. The mixture was digested with absolute spirits, and filtered. This liquid, which was not precipitated by sulphuric acid, gave by spontaneous evaporation, long colourless needles, weighing two milligrammes. They were soluble in water and spirits; were dissipated by heat, and precipitated by nitric and tartaric acids; they consisted therefore of urea.

From the vomited matter urea was procured, but in such small quantity as with difficulty to be appreciated. A brownish flocky precipitate was obtained from the bile, not completely resembling urea. No precipitate could be detected in the contents of the small intestines, or from the fæces.

Thus the result of the German chemist's researches is, that urea can be formed without the aid of the kidneys. The French chemists, Vauquelin and Segalas, found no urea in the blood of a dog forty-eight hours after the extirpation of the kidneys; a circumstance which is probably to be ascribed to the short period which elapsed between the operation and the experiment.

No urea, or sugar of milk, in healthy blood.

Ten pounds of fresh blood from the cow, evaporated to dryness in the water-bath, were digested with hot water, and again evaporated. The residue was taken up by water, and precipitated by acetate of lead. The filtered liquid was precipitated by carbonate of ammonia, and evaporated to dryness, and the residue digested with absolute spirits. The latter process was repeated, when, by evaporation, a combination of soda, with a fatty acid, remained.

In the solution of the residue, nitric and oxalic acid occasioned no precipitate of urea, but they separated the fat acid (acid of oil?). It should be observed, that by this process they had previously ascertained 2-500 of urea, and 1-100 sugar of milk, to be appreciable. It appears, therefore, that cow's blood contains neither urea nor sugar of milk, or at least in extremely minute quantity.—*Ib. and Pogendorff's Annalen.*

5. *Case of derangement of the faculty of language.*—The following interesting case of this is recorded by JOHN GRATTAN, Esq. of Belfast, in a late number of the *Phrenological Journal*. It resembles in some respects the case related by Prof. Dickson, in vol. vii. p. 359 of this Journal.

G—— B——, Esq. æt. 56, a gentleman of a highly cultivated and vigorous mind, had, about two years since, and within a short period of each other, several attacks of paralysis, affecting the right side, from which he has only partially recovered. His daughter, to whom I am indebted for the details of the case, and who has perused and confirmed the accuracy of the present report, states that at first his speech was not affected. The first symptom which he manifested of any disorder in the organ of language, was an inability to remember the name of a place in the country, in which he was much interested, and which he called "*Red Well*," instead of "*Red Hall*," without appearing to be conscious of the error, as he seemed to be annoyed with his friends for not understanding him. Very shortly after, he became unable to articulate at all. The only words which he can at present pronounce are "aye" and "no;" and even in the use of these simple monosyllables he occasionally becomes embarrassed and confused, particularly if more than ordinarily unwell.

He understands distinctly and clearly everything that is said to him, and likes to have any interesting occurrence in the newspapers repeated, but does not attempt to read for himself. So far the deprivation of speech might be supposed to depend upon disease of the mechanical vocal apparatus. But if that were all, he should be able to communicate his thoughts in writing. This, however, he cannot do; and the great peculiarity of the case is, that while his efforts to put his thoughts on paper are uniformly abortive, and accompanied with such evident marks of mental confusion and agitation as to be distressing to his friends and harassing to himself—as though he felt provoked at being unable to accomplish what he thinks he ought to be able to do—he can calculate figures with perfect *accuracy* and *facility*, and even takes at times a pleasure in the employment. Of late, he has succeeded occasionally in writing an intelligible word, which has been observed to be always a proper name. In attempting other words, he so misplaces the letters as never to be understood. It is also quite apparent that the effort is unpleasant to him. Recently he wished to communicate something respecting a particular individual; and, after several efforts, such as writing *Hu*, *Hugh*, finally accomplished so much as to write intelligibly the word *Hugh*, and then turned to his daughter with an air expressive of a desire that she should help him by repeating the surname, which she did, naming different individuals who had that name, until he gave his assent. In other respects, as far as can be judged under such circumstances, his mind exhibits no want of integrity whatever.

He took so warm an interest in the result of our contested election, as to go in a chair to give his vote, when he found his party was likely to be unsuccessful; and this contrary to the wishes and entreaties of his friends, who were apprehensive of its injuring his health. In money transactions he shows as much acuteness as ever. He not long since made a transfer of some property; and, after signing the deed, and finding that it had been given to the purchaser before the purchase-money had been paid, he became quite unhappy until informed that the original deed of transfer to himself was in his own possession, when he was perfectly satisfied. He was also desirous of knowing how a certain sum of money had been appropriated, and would write down without difficulty or exertion the amount he wanted to inquire about, such as 800, 200, &c.; but for any thing farther, he would only look and listen, expressing his assent or dissent, as his friends happened to hit upon his meaning or not. They are able to understand much of his wishes by the expression of his countenance.

The sound of his voice is as strong and clear as ever. He was always particularly fond of music, and still continues to derive great pleasure from it, keeping accurate time during its performance.

As he began to recover, he employed a schoolmaster to teach him to write with his left hand, and made unusual progress in that acquirement; but he can form letters accurately only when he has before him a copy from which to write. Whilst he has no difficulty in writing figures, evidently showing that though Form is intact, Language, which associates the word with its symbol, being impaired, is incapable of exciting the former organ into correct action, whilst with calculation the fact is otherwise.

A most extraordinary peculiarity in this gentleman's head is the existence of two fissures in the skull, having the appearance of the fontanels in children, as if there had been an absorption of the bone, but lying, as far as I could learn from mere description, the one on the left nearly over the organ of *Veneration* and part of that of *Firmness*, and that on the right across part of the organs of *Conscientiousness* and *Hope*; and I am positively assured by his daughter, that his clerks could at any time tell when he was angry, without hearing him speak or seeing his face, but simply from the great *depression* which on such occasions occurred in those fissures, or, as they termed it, "the holes that would appear in his head," and that she has at different times observed the same phenomenon herself.

Viewing the circumstance physiologically, is it not possible that the excitement of *Combativeness* and *Destructiveness* causes, as in the case of blushing, a sudden impulse of blood to the parts, and that the unequal distribution of blood thus produced is attended with a temporary collapse of the organs of the moral sentiments, which are situated in the neighbourhood of these openings, thereby diminishing the resistance which they afford to the atmospheric pressure? Whe-

ther this be the reason or not, the fact is indisputable: the appearance is described to be as if the integuments were drawn in."

6. *Physiological and Chemical Researches on the blood of the vena porta.*—The first No. of the forty-fourth volume of *Rust's Magazin* contains an account of some highly interesting researches by Professor SCHULTZ, respecting the chemical and physiological differences between the blood of the vena porta, and that of the arteries and other veins. The following is a succinct summary of the results, as given in the *Gazette Med. de Paris*, (15th August, 1835.)

1st. The blood of the vena porta is in general blacker than other venous blood, although this difference is not always manifest to the sight; it is not reddened by the neutral salts, or exposure to the atmosphere, or by the action of oxygen.

2nd. The blood of the vena porta does not generally coagulate, but when it does, the coagula are less firm than those of the other arteries. In those cases in which it has coagulated, it liquifies entirely or partly at the end of from twelve to twenty-four hours, and produces, as well as that which does not coagulate, a black sediment, upon which is formed clear serum.

3d. The blood of the vena porta contains on an average, when fresh, 5.23 per cent., and when dry, 0.74 per cent. less fibrine than the blood of the arteries and the other veins.

4th. The liquid blood of the vena porta contains generally a little less solid matter (0.18 to 0.3 per cent.) than the arterial blood and the other venous blood.

5th. Its serum contains generally 1.58 less solid matter than the arterial serum, and 0.80 less than that of other venous blood. In the dry state, the first is of an ash-gray, the second yellow, the third greenish-yellow.

6th. The blood of the vena porta contains proportionably more cruor and less albumen; the contrary is the case in the arterial blood: the dry cruor of the vena porta is brownish gray, that of the other veins deep red, that of the arteries bright red.

7th. The blood of the vena porta contains in its solid parts almost twice as much fat as that of the arteries and the other veins. The proportion is as follows:

Blood of the vena porta,	-	-	-	1.66	per cent.
Arterial blood,	-	-	-	0.92	"
Venous blood of the other veins,	-	-	-	0.83	"

8th. The dry serum of the vena porta contains but 0.27 per cent. more fat than the dry serum of the arteries and the other veins.

9th. The albuminous cruor of the vena porta contains 1.11 per cent. more fat than that of the arterial blood, and 1.21 per cent. more than that of the blood of the other veins.

10th. It is in the fibrin that this difference is the greatest. The dry fibrin of the vena porta contains 10.70 per cent. of fat; that of the arteries 2.34 per cent., so that the difference is 8.36 per cent.

11th. The fat of the blood of the vena porta is blackish brown and unctuous; that of arterial blood and other venous blood white, or yellowish-white and crystalline; that of the white chyle to two-thirds liquid and one-third crystalline.

PATHOLOGY.

7. *On the Pathology of Scrofula.* By WM. STOKES, M. D.—In the varied catalogue of morbid affections to which man is liable, there is scarcely one of such paramount importance—such engrossing interest, as scrofula, whether we look to the obscurity of its origin, its insidious progress, the number and variety of the organs which it attacks, or its remarkable intractability, and extensive fatality. It is indeed, a subject of deep concern to every one who is engaged in the pursuit of medical knowledge; and I do therefore entreat your undivided attention while I endeavour to give you some clear ideas as to the meaning of what has been termed the *scrofulous diathesis*, and scrofula itself.

It is now generally admitted, that a great proportion of our improved knowledge on the subject of scrofula, as well as many other diseases, has been the

result of those splendid anatomical and pathological investigations which have distinguished modern times. The older authors knew little of pathological or comparative anatomy, and hence it was, that serofula, on which pathology has shed such a broad and searching light, was to them an intangible essence, something which they knew to exist, but could neither portray nor define. If we look to what their opinions were on this subject,—opinions which, I regret to state, are not yet sufficiently exploded, we shall find that they are based on the then prevailing doctrines of exclusive humoralism; and that, instead of attempting to reduce the phenomena of serofula to a fixed and tangible formula, they sought to explain it by referring to certain peccant and noxious humours in the system. But, in order to arrive at accurate notions on this subject, we must begin with the first formation of the human body; we must trace serofula back to its primal source, and carefully explore its anatomical constitution.

If we examine the capillary circulation in its physiological state, we shall find two kinds of circulating fluids, one distinguished by its red colour, and called *blood*, the other transparent and whitish, or colourless, and termed *lymph*. In fact, we have two kinds of capillaries, one containing fibrin and colouring matter blended with an albuminous fluid, the other circulating only a colourless fluid containing little or no fibrin, and almost identical with serum. This is a fact which is now generally admitted. It has been supposed, that the red and white capillaries differ only in point of size, and this is rendered probable by the fact, that in cases of inflammation, vessels which previously contained only a colourless fluid become dilated, and are rendered capable of transmitting red blood. This goes very far in support of the doctrine, that the red and white capillaries differ only in respect to size. Let us take a few out of many examples of this kind. The circulation of the serous membranes in their healthy state is entirely white, but, in an inflammatory condition, we can with the greatest facility, trace numerous red vessels ramifying through their substance, as you may observe in inflammations of the arachnoid, pleura, peritoneum, and other white tissues. You may see the same also in the case of a mucous membrane, as in that of the conjunctiva where it passes over the transparent cornea. This condition subsides with the disappearance of the inflammatory action.

These investigations, however, as to the cause of the difference between the red and white capillaries, are not of great moment in a pathological point of view; it will be sufficient for our purposes merely to admit this difference, and bear chiefly in mind the relative compositions of the fluids which circulate through them. One of these, as has been already stated, is called *blood*, and contains a quantity of fibrin and colouring matter; the other is termed *lymph*, and is chiefly composed of water and albumen; the former is characterized by the presence of fibrin, a highly animalized product as containing a large proportion of azote, the latter consists of materials of an inferior degree of animalization, and in which we can scarcely detect the existence of azote. Recollecting this remarkable difference in the nature of the circulating fluids we find, when we come to examine the solids of the body, that some organs are supplied with red blood, while others receive only white blood, and hence the grand physiological division of the body into *red and white tissues*; the red containing fibrin and colouring matter, and endowed with great vitality; the white containing chiefly albumen, and possessing vital power in a comparatively weak and imperfect degree. To give you an example of this, let us take the muscular fibre (which may be looked upon as the most highly vitalized of animal products), and we shall find that its tissue is red, it is supplied by red vessels, and exhibits an acute sensibility to external as well as internal stimuli. On the other hand, we observe that the white tissues, such as cartilage, tendon, and serous membrane, have a white and albuminous fluid circulating through them, that they are of an inferior organization, and of a lower degree of vitality, and that, in a state of health, they are almost insensible to ordinary stimuli.

In order to prove the close connexion which exists between the white tissues and a white circulation, it is necessary that we should admit that these tissues are vascular; and on this point, it must be confessed, there is some difference of opinion among physiologists. Some say that the serous membranes and other white tissues are not supplied with vessels and nerves like other parts of the body, but that they are to be considered as a mere exudation. This is the opinion of Rudolphi.

This notion, however, does not appear to be founded on truth; it has been disproved by the investigations of many eminent physiologists, but by none more than by Dr. Graves in his excellent lecture on the lymphatic system. Let us enquire, briefly, whether it be true that these tissues are supplied with vessels containing white blood. That such is the case appears from the fact of the *sudden development* of red vessels in those tissues when in a state of inflammation. Now, it cannot be supposed that an irritation, which has lasted only for a few minutes, could be capable of forming new vessels. That vessels already formed might become dilated in a very short space of time we can easily conceive; but that they should start into existence in the space of a few minutes is totally incomprehensible. The sudden appearance of these vessels does not by any means prove that they are new creations; it rather tends to show that they must have existed previously to the attack of inflammation which rendered them visible, and that they escaped observation before that occurrence, from their extreme minuteness and from the colourless nature of the fluid they contained. The next thing to be adduced in support of this view of the question is this:—that parts unconnected with any red tissue shall themselves become red under the influence of the inflammatory process. Thus, in a case of pleuritis, for instance, we observe that the lymph which has been effused becomes gradually organized, and ultimately converted into serous membrane, forming those bands of adhesion with which you are all familiar. At certain periods of this process, vessels carrying red blood may be distinctly seen shooting through the lymph, which you must bear in mind, is surrounded on all sides by the original serous membrane. These vessels are sometimes of great size; I have seen them, in a case of peritonitis, as thick as a crow-quill.

As the organization advances to completion, we find that these vessels disappear, and a colourless serous membrane is formed. Now, here we have a newly organized tissue, presenting the same characters as serous membrane, and having no connexion whatever with any red tissue; and yet it is not less curious than true, that if this new tissue be attacked with inflammation, it will become distinctly red, and will have red vessels developed in the substance which may be examined and traced with the naked eye. The red vascularity of the synovial membrane when inflamed, may be also quoted in proof of the same fact, for this, you will recollect, is a white tissue, super-imposed on other white tissues, the cartilage and capsular ligament. In addition to this, we have an argument drawn from the great similarity which exists between the serum of the blood and lymph. Dr. Graves believes that the lymphatics, which are supposed to act merely in carrying back the debris of the system, really enjoy a higher function; that they are to be regarded as the veins of the white tissues, or in other words, that they are to the white arteries of the white tissues what the veins are to the red arteries of the red tissues. He brings forward many striking analogies between the veins and lymphatics. Both have valves, the effect of which is to direct the contained fluids towards the centre of the circulation; in both the fluid flows with an equable current toward the heart, and in both its course is directed towards the organ where it is destined to undergo the process of aëration. Dr. Graves quotes Cruikshank and others to show that lymphatics, coming from a white organ or tissue, become capable, in the inflamed state of that organ, of carrying red blood, and this is a strong argument in proof of his opinions. We find, too, that the white blood, like the red, is separable into a watery portion and a crassamentum. If any thing else were necessary to show the close connexion between the veins and lymphatics, it is furnished by the fact of their numerous anastomoses, a fact which has been placed beyond all dispute by Meckel, in his magnificent work on the lymphatics, which he has dedicated to his illustrious countryman Soemmering. Lastly it has been shown by Magendie, that the veins and lymphatics discharge a similar function, both being engaged in carrying on the process of absorption. Both then have a similarity of structure; in both the contained fluids flow in an equable current toward the heart, and are destined to be submitted to the same process of aëration; both contain a fluid separable into a clot and a watery portion; under the influence of the inflammatory process the one carries red blood as well as the other; they are intimately connected with each other by innumerable anastomoses, and both are alike engaged in discharging the functions of absorption.

It may be admitted, then, I think, that the white tissues are vascular, and that the lymphatics are the veins of the white tissues. Now, pursuing this investigation further, if we examine the different organs and parts of the human body, we find that most of them are composed of a combination of red and white tissues, but that some consist of white tissue alone. Thus, if we look to the constitution of muscular substance, we find that it is composed of muscular fibre which is a red, and cellular membrane, which is a white tissue. In the parenchymatous organs we find the same combination of red and white tissues present. But on the other hand, we observe that serous and synovial membranes, ligaments, tendons, aponeuroses, and cartilages have no mixture of red tissue in them, and are composed of white tissue alone. The fact is, that both enter into the composition of most of our organs, but in some the white tissue prevails exclusively. The same conformation is observed in all the vertebrated animals, but particularly in the mammalia and birds. Now, admitting this, it appears that the proportion of red solids is in the ratio of the red fluids, and that of white solids in the ratio of the white fluids. This proposition we can establish by a number of indisputable facts. In the higher classes of the mammalia, the red solids and fluids are found in great abundance in the viscera as well as in the muscular parts. In birds the quantity of red blood is great, and consequently we find the muscular substance red and firm, the circulation active, and the temperature high. In the amphibious animals the flesh is paler, the quantity of red blood diminishes, and as the red tissues disappear the white increase in proportion. Descending in the scale we come to fishes; here we find that the quantity of red blood is very small, and that the white tissues predominate. When we arrive at the invertebrated animals, or those which have no spinal system, we observe a disappearance of the red fluids and red tissues. I shall here beg leave to read for you an extract from Dr. Graves' lecture. "The view already taken of the intimate connexion, in all the different classes of animals, between the development of the white parts and that of the lymphatic system, is easily explained on the supposition of the lymphatics being the veins of the white parts. In invertebrated animals, which have no red blood, it would be more rational to call the vessels, conveying the white blood back to the heart, lymphatics than veins, for it is more consistent with analogy to suppose, that, in the lower animals, the retained portion of the circulating system corresponds with the former, as in the superior animals, the lymphatics are connected with parts, which in their degree of vitality, most resemble the structures of the lower animals.

"In the higher classes of animals there are not only two circulating systems, one of red blood and the other of white blood, but also a twofold system of nerves, the cerebral and the ganglionic; the latter of which, in invertebrated animals, seems to perform all the nervous functions necessary to their state of existence, while these animals are remarkable for possessing only a simple vascular system.

"We find, therefore, a correspondence between the vascular system of red blood and the nervous system of the brain and spinal marrow. They are most perfect in animals most abounding in highly aerated red blood, and decrease according to the descending scale proportioned to the decrease of red blood, until at last we arrive at the invertebrated animals possessing no red blood, and no brain or spinal marrow."—*Op. Cit.* p. 24.

These facts seem to establish the law, that the proportions of red and white solids are in the ratio of their respective fluids. But let us consider this question in a different point of view. The human fetus, in the earlier periods of its existence, presents the appearance of a white mass without any red tissue or red vessels, in fact it resembles one of the lower, or white blooded animals, but, as the process of development goes on, the red fluid begins to appear, and the red tissues increase; as it progresses towards perfection these changes become more manifest, until at length having arrived at the summit of the zoological scale, the predominance of the red tissues is established, and even the new born infant exhibits the distinguishing characteristics of that being which holds the first rank in the order of vertebrated animals.

We have seen, gentlemen, that, in proportion as the animal rises in the scale of being, the proportion of the red to the white tissues is increased, and that the lowest animals, who possess only a white circulation, enjoy a degree of vitality not

far removed from that of the vegetable kingdom. Red blood, then, is the *pabulum vite*, the characteristic of superior organization and vitality, the rich stream by which the nobler parts of our system are nourished. Applying this to the different states of our bodies in health and disease, we find that the predominance of red blood and red tissues is a proof of health and vigour, while that of white blood and tissues shows the feeble and unhealthy individual. Before we pursue this further in its application to the investigation of disease, let us refer for a moment to some illustrations. In the Albinos the white tissues are more abundant and the quantity of red blood smaller, the muscular fibres are lax, and the constitution delicate. Again, compare woman with man. In the former the white tissues are more prevalent than in the latter, the skin is fairer, the vessels carrying red blood smaller, and the muscular system less developed. Women have more white blood and white tissues, and consequently their strength is less, and their constitution more delicate. Again, if we examine the hibernating animals, who pass long periods of time without taking food, we find that, at the termination of their hibernating season, their strength is remarkably reduced, and their tissues much paler than under different circumstances. The same diminution in the quality of red blood and red tissues, and corresponding increase in the relative quantity of white tissues, occur in the case of persons advanced in life. From some cruel experiments, made in France, it appears that, by starving animals, their tissues became blanched in a remarkable degree, and they came to represent animals of an inferior grade, so far as the preponderance of white tissue was concerned. These considerations are highly interesting and important, and remind us of Lord Bacon's aphorism, that *white is the colour of defect*.

We may, then, conclude that the white tissues are less highly animalized than the red, and of a lower degree of vitality, and, arguing *a priori*, we would say that they are less able to resist death, and that in them disease would be slower and more obstinate than in the red tissues. Such, too, is the fact, for we find that the white tissues are most liable to morbid affections of an intractable character, frequently terminating in the total destruction of the diseased parts. Cancer, tubercle, ulceration in the cartilages, ligaments, or cellular substance, all these belong to the affections of white tissues. All these terrible inflictions are to be met with in those tissues which rank low in the scale of vitality; they occur in persons of weak habit, and diminished vital energy, and in whom the white tissues predominate over the red, and they are less under the influence of those curative means which are ordinarily employed in the treatment of diseases of the red tissues. Thus we find that many of the means, which are employed with such good effects in dispersing inflammations of red parts, seem to possess very little power in removing the diseases of white parts. In making these observations, I have spoken only in reference to chronic disease, but let us turn to the acute diseases. Here we arrive at a very curious fact. If we take for instance, the serous membranes, we shall find, that, although strictly belonging to the class of white tissues, they are, nevertheless, very liable to acute and violent diseases. It appears strange that parts, possessing only an inferior degree of vitality, should be subject to such frequent and violent attacks of inflammation. Such, however, is the fact. It is very difficult to explain this apparent anomaly; I shall, however, throw out a few considerations which strike me on this point, having premised, that you are to look upon them, not as proved, but lying open to future investigation.

If we examine the pathology of serous membranes, we shall find that they are liable to inflammation in proportion to the quantity of red vessels in the organs they cover, or, in other words, the more they are connected with organs enjoying a high degree of vitality, the more they are subject to inflammation. If we take the serous membranes lining the three great cavities of the body, we shall find that this position is, to a certain degree, borne out by the facts. One of the most common cases of inflammation is that of pleurisy; we seldom open a body without meeting with evidences of its existence at some period or other of the life of the individual. Now, we know that the lung is the most vascular organ in the body, and that through it alone the whole of the circulating blood is transmitted. Next in order to the pleura, we have the peritoneum, peritonitis being a much more common affection than arachnitis, for the intestines receive a greater quantity of red blood than the brain. Among the viscera of the three great cavities, the

brain is the whitest, and receives the least blood, and we accordingly find that its investing serous membrane is least liable to attacks of acute inflammation. We have also a number of curious facts with respect to the nature of the connexion which exists between any inflamed parenchymatous organ, and the serous membrane by which it is covered. Thus in a case of hepatitis, we find that that portion of serous membrane, which invests the liver, exhibits traces of inflammation, while the rest of the peritoneum remains in its normal and healthy condition. You will see the layer of the peritoneum covering the liver in a state of inflammation and will frequently find adhesions between it and the corresponding portion of the parietal layer, but no other sign of extension of inflammation. This fact is strongly in favour of the connexion between the inflammations of serous membranes and of the organs they cover. There is another form of partial peritonitis which is exceedingly common, namely the inflammation of that portion of it which embraces the uterus, and which is so frequently met with in puerperal fever. Now here we have two considerations to bear in mind. During uterogestation, there is a remarkable development of the uterus, and about the period of delivery, it is a vast red organ, having a powerful determination of blood to its substance, as well for its own support as that of the infant. We accordingly find, that after delivery peritonitis frequently sets in, its occurrence being favoured, in the first place, by the connexion between the peritoneum and a large vascular red organ, and, in the next place, because the determination has not yet ceased, and the blood which went to the uterus (but cannot do so any longer to the same extent) seems to be directed to the peritoneum. Another consideration bearing on this point is, that when lymph has been effused in the case of inflammation of serous membranes, the process of organization and cure goes on the more rapidly, the nearer the inflamed membrane is to a red and vascular organ. If we take a case of pleuritis with effusion of lymph and serum, when is it that we find the process of organization set up in the effused lymph? It is when the fluid has been removed by absorption and the two serous layers of the pleura are no longer prevented from coming in contact, for as long as that portion investing the lung is separated from the costal pleura, either no organization at all takes place, or, if it does, it is of a slow and imperfect character. But as soon as the effused serum is removed, and the costal pleura comes into close opposition with a red and highly vascular organ, the lymph immediately undergoes a process of rapid organization. The high degree of vascularity of the lung, should be reckoned as one among the causes of the great frequency of pleural, as compared with peritoneal, adhesions.

A question may be asked here, connected with the idea that serous membranes possess only a low degree of vitality. If the vitality of serous membranes be of an inferior kind, why is it that their inflammations are so acutely painful? This I must confess, is a question not easy to be answered. There is no doubt, however, that during the existence of inflammatory affections, the vitality of these parts is considerably increased. They are elevated in the scale *for the time*. Their vessels carry red blood, their sensibility becomes exquisite, and they enjoy a reproductive power as is shown in the case of the formation of new synovial membranes, capsular ligaments, and serous membranes; thus, as Dr. Graves has beautifully remarked, showing an analogy of organization and function, between *the white tissues of the higher*, and the whole constitution of the lower animals, in whom the power of reproducing *parts* is so remarkable. This circumstance seems to be strongly in favour of Broussais' doctrine, that inflammation is nothing more than a plus degree of local vitality. Some persons think that the pain in serous inflammation depends upon the density and unyielding nature of the affected membranes, for you are all aware, that one of the effects of inflammation is at first to distend the inflamed organ. This may be true. Again, it is said, that we are also to take into account the extensive and constant motions of the serous membranes. As long as respiration goes on in the chest, or digestion in the belly, while the ribs are elevated and depressed, and while the diaphragm descends, or while the peristaltic action of the intestines goes on, there will be motion in the serous membranes which invest their respective viscera. We know, also, that the brain enjoys a certain degree of motion. We must, then, in accounting for the pain of serous inflammation, take into consideration the dense structure and little distensibility of the parts, as well as their constant and uni-

form motion. There is one fact, however, which as far as it goes, is of importance, and should not be forgotten when we consider the motions of serous surfaces in reference to pain. Of all the serous membranes the pericardium is that whose motions are most constant and violent. Yet I have now seen many cases of its inflammation, where quantities of lymph were effused, as detected by the stethoscope and by dissection, yet in which no pain whatever existed.

It appears to me that we can add something to these views in the way of explanation. When lecturing on hepatitis, I drew your attention to the fact, that if we compare the inflammations of the different solid viscera with respect to pain, we find that there is always less pain when the inflammation affects the central parts of an organ, than when it is superficial. In deep-seated pneumonia there is scarcely any pain, in pleuro-pneumonia the pain is often acute. In arachnitis the pain is violent, in deep-seated disease of the brain there is frequently no pain at all. Inflammation of the central parts of the liver is generally a painless affection; but, when it approaches the surface, it is always accompanied by more or less suffering. Now, if we consider the serous membrane of the abdomen, for instance, to be an organ of low vitality and inferior sensibility, we must seek for some other explanation of the pain which attends superficial inflammations of viscera. The following idea may be of some assistance towards an explanation. Let us take, for example, a case of inflammation occurring in one of the glandular viscera. You are aware that Müller has reduced the structure of all glands to one formula, that is to say,—a gland, in its simple state, consists of a cavity, shut at one end and open at the other, and the difference between the various glands does not depend on any departure from this rule, but on a difference in the mode of aggregation and arrangement of these little structures. You will have a notion of the structure of glands by comparing them to a bunch of grapes, the grapes representing the glandular part, and the stalks their excretory ducts. Now you are aware that in most glandular organs the secreting portion is placed towards the circumference, and the ducts accumulate towards the centre; and as the glandular portion always possesses a higher degree of vitality than the ducts, we can understand why the superficial parts of a glandular organ may be endowed with a higher sensibility than the deep-seated or central, and, consequently, that inflammation, affecting the superficial parts of glandular viscera, will be attended with more pain than when seated towards the centre, and affecting the excretory portion of the organ.

We are now, gentlemen, prepared to enter on the consideration of scrofula, on which much error still prevails, notwithstanding all that has been said and written on the subject. One great cause of the confused notions respecting scrofula arises from the circumstance, that some persons have understood the term as expressing mere local disease, as, for instance, of the glands of the neck, and having no reference to any peculiar constitutional diathesis; while others use it with reference to a peculiar condition of the system, which is called the scrofulous diathesis; and a third class apply the term *scrofulous* to a number of very opposite diseases, which have no character in common but chronicity and incurability.

By considering the subject physiologically, we escape those errors and acquire more accurate ideas as to its real nature; and, as far as I can see, we cannot help adopting the opinion of Broussais,—that scrofula implies nothing specific; but simply, that there is an undue preponderance of the white over the red tissues, and that, in such persons, there is of course a greater liability to *diseases of the lymphatic system*. Where there is an undue preponderance of the white over the red tissues, there we have the scrofulous constitution, and the liability to its accompanying diseases. Observe, there is nothing specific in this; an individual originally free from scrofula, may afterwards be subject to it, and it may, under certain circumstances, occur in all constitutions.

The characteristics of what has been termed the strumous habit, are known since the time of Galen. The skin is white, the complexion delicate and transparent, the hair fair in general, but sometimes dark; the features delicate, the upper lip thick, the alæ of the nose large, the head fully developed, the chest rather narrow, the joints large, a great tendency to sanguineous congestions, internal and external, which are very little under the influence of antiphlogistic means; the intellectual faculties early developed and of a higher order, great refinement, and delicacy of taste. In such persons there is generally a considerable preponder-

ance of the white tissues, and they are much disposed to scrofulous disease, which is nothing more than a chronic irritation of the white parts and of the organs immediately connected with them.

We may look on the scrofulous diathesis as a condition of the human body which is to a certain degree imperfect, and which is to be attributed to arrest of development. There is a period of fœtal life, in which the whole mass of the body consists of white tissues. According as the individual progresses towards maturity the red tissues become more abundant; and when he arrives at maturity of maturation the proportion between the tissues becomes completely altered, the red being now more abundant than the white. But if this process should happen to be arrested, either shortly after birth or during life, we have then an individual of a lower degree of vitality, and approximating to the class of white-blooded animals. That we may reduce the scrofulous diathesis to arrest of development seems to be borne out by other considerations. We find in persons of a strumous diathesis proofs of arrest of development in various parts, so that whether we consider the question as to the development of the whole or of particular parts of the body, the same conclusion obtains. Scrofulous children have large heads, and it has been long known that they are exceedingly subject to hydrocephalus. The great size of the head in this instance is reducible to the principle of arrest of development: and here we have some explanation of the fact of the activity of the intellectual powers in scrofulous persons. Again, scrofulous children have large bellies; and here we have another proof of the arrest of development. In the fœtus the belly is larger in proportion than it is in the adult; and if the individual grows up with this predominance, it is a proof of arrest of development. The liver in the fœtus is, as you all know, very large. Now it is a fact that many persons of a scrofulous habit grow with this fœtal condition of the liver; and, accordingly, we find this organ enlarged, not as the result of disease, but because an equal and proportionate increase of other parts has not gone on; and here we have another fact, confirming the principle of arrest of development. Scrofulous children are observed to have small limbs and contracted chests. Here, too, we again meet with the fœtal condition. In the fœtus the chest is small and contracted, and the extremities are puny and ill-developed. How beautifully this tallies with the state of the lung at that period of life, when there is very little employment for the thorax, and when the active functions of the lung have not as yet been called into operation. This too, informs us, why it is that such children are so liable to affections of the lungs. We find that scrofulous persons are of a feeble frame, and have weak and flabby muscles; and, in accordance with this, we find on examination that the muscular system to a certain degree represents the condition of fœtal life, that the blood is albuminous, and its proportion of fibrin small. We observe that scrofulous children are subject to rickets, and that the proportion of phosphate of lime in their bones is small. Now this is precisely the condition of the bones in the fœtus. Thus whether we look to the whole or to particular parts of the body, we find that scrofula is reducible to arrest of development, and that there is not in it any virus, anything particular or specific, as has been erroneously imagined. To these considerations it might be added, that nothing is more common than to see those monstrosities, distinctly referable to *local* arrest of development, occurring in the scrofulous subject; and the statistics of monstrosity show that in this respect the female sex predominates over the male.

There has been much disputation as to the question whether scrofula be hereditary or not. You can easily solve this question, by reflecting on what you have already heard. No doubt it is often so; one or both parents may be scrofulous, and it is natural that a child born of such parents should inherit their scrofulous constitution, as that it should resemble them in features. But, on the other hand, we sometimes find that scrofulous parents beget healthy children. This appears to be an anomaly, but it may be explained by the circumstances of the child having a good healthy nurse, living in pure air, and having comfortable warm clothing, all circumstances calculated to develop the red tissues, and of course strengthen the system. Thus a scrofulous taint may be completely worn out in a few generations. It sometimes, on the other hand, happens that healthy parents may have children of a strumous habit. This, however, is the rarest case, but can be explained by reference to causes which would disturb the balance of development, and a person of originally sound constitution may, under certain

circumstances become scrofulous. Children may be badly fed and have insufficient clothing; they may be kept confined, and deprived of free air, light, and exercise; they may have an early irritation of the digestive system, from bad and unwholesome food; and in this way may acquire the scrofulous character without any hereditary disposition. Thus we come to the fact, which has been so frequently noticed, that scrofula will often pass over a generation, and that the grandfather and grandson may labour under it, while the son escapes its infliction.

It may be objected to this view of the question, that we frequently observe persons of dark hair and robust constitutions falling victims to scrofula. This is certainly true, but it is not on that account an argument calculated to militate against the doctrines which have been propounded on the subject. There are many causes capable of producing this increase in the white tissues, this peculiar state of the constitution, which we call the scrofulous diathesis. Excessive mental or bodily exertion, all the depressing passions, injuries of innervation of various kinds, deprivation of light, air, and exercise, early and continued gastro-intestinal irritation, persistent and exhausting diseases, all these have a tendency to impair the functions of nutrition, and to destroy the balance between the different tissues of the body. If we look to those animals in which tubercles are found, we see that they are often those which have been brought from a hot to a cold climate, and kept in a state of confinement for a long time, and hence it is that we so often find fatal tubercular disease in animals which are kept for the purposes of exhibition. The same liability to tubercle is observed in several of our domestic animals kept in unhealthy situations, and deprived of air, light, and exercise. The truth is, that a combination of such causes will generate scrofula in constitutions which were originally sound and good; but it will occur at an earlier period, and with much more certainty when these causes are brought to act on persons in whom there is an original or congenital predominance of the white tissues. This fact is so well known as to require no further illustration; it is now generally admitted, and you will have many opportunities of verifying it in practice.

Allow me, in concluding this subject, to direct your attention to the following considerations. If we were to connect the phenomena of scrofula with a predominance of the white tissues, it would follow that woman would be more liable to the disease than man. Louis, in stating the relative liability of the sexes to consumption, makes the proportion of males to females as 70 to 92. Cancer, which is also a disease of the white tissues, is, you all know, much more frequent in women than men.

Scrofula, then, to use the term as expressing local disease, seems to have in it nothing of a specific character, or reducible to the supposition of a virus existing in the system; it seems to be a slow irritation of the lymphatic system, occurring in persons who have a predominance of white fluids and white tissues. It would appear, also, that this predominance of white tissues may be either congenital, or it may be acquired, and that, in this case, it is superinduced by various causes, all having a direct tendency to diminish the proportion of red tissues, and lower the vitality of the system. This, which appears to me to be the true meaning of what has been termed the scrofulous diathesis, you will find to be borne out by a multitude of facts, and you will have numerous opportunities in practice of proving the value and importance of this view of the question. In this way we get rid of that mode of treatment which was based on the supposed specific nature of scrofula, and of which the object was the removal of an imaginary virus, and we are guided to the knowledge of a more philosophical and more successful line of practice. We arrive thus at the few and simple, but grand and efficient, principles in the treatment of scrofula; we see that scrofula is in its nature closely connected with the predominance of white and the diminution of red tissues, and we accordingly find that our curative means must embrace every thing calculated to invigorate the system, and add to the existing sum of vitality.—*London Medical and Surgical Journal*, Oct. 4, 1835.

8. *Case illustrative of the influence of the Ophthalmic Branch of the Fifth Pair of Nerves over the Nutrition of the Eye.*—The morbid phenomena observed in the following case, seem to afford additional confirmation of the opinion enter-

tained by physiologists with regard to the influence exerted by the ophthalmic branch of the fifth nerve over the nutrition of the eye; they nearly correspond with those observed by M. Magendie during his experiments on rabbits, and also with those described by M. Serres, as having occurred in a similar case treated by him.

The principal facts connected with the case now to be noticed, are the following:—William Jolly, three years of age, was admitted into St. Thomas's Hospital, under the care of Dr. Burton, on the 29th of January, 1835. The father stated, that the symptoms which his child suffered were preceded, five months previously, by a fit resembling apoplexy; and that upon the child partially regaining his faculties, his right leg and arm were found paralysed. At the time of the patient's admission into St. Thomas's Hospital, these limbs were still almost useless, and the child was unable to stand alone; the sensibility of the paralysed extremities was rather increased than diminished; the head was inclined a little over the left shoulder, in a fixed position, and any attempt to rotate it occasioned much pain. The patient could only rest in a sitting posture, with his body bent forwards, and his head supported on a pillow; and in this constrained attitude he continued five weeks, throughout the day and night, with little change to the date of his death. At the time of his admission, the body was emaciated; the abdomen tumid, and tender on pressure; the complexion pale and unhealthy; the tongue was clean and moist; the pulse at the wrists exceedingly feeble, and the action of the heart over the cardiac region proportionately weak. The child's intellect did not seem impaired; he understood the questions put to him, and his replies were intelligible, although uttered with a little hesitation; the hearing was distinct; the eyes sound, the sight perfect, but the pupils rather dilated.

No other remarkable phenomenon presented itself until about the expiration of a fortnight from his admission; at that date, a swelling and tenderness of both parotid glands, with erysipelas of the left cheek, and a small speck situated about the centre of the left cornea, appeared in quick succession. When the speck first made its appearance, there was little or no redness of the conjunctival vessels, no intolerance of light at any period; the iris was not apparently inflamed, and the movements of the left eye-ball corresponded with those of the right eye. The speck rapidly extended, and the whole surface of the cornea became opaque. The conjunctiva became more vascular, and its surface was moistened with a semi-purulent fluid; but in the course of seven days from its first appearance the secretion was much diminished, and the surface of the conjunctiva had become almost dry. Ulceration through the cornea advanced; and within the laminae of the inferior half of its disk a purulent fluid had collected, which eventually escaped through the perforation, and projected in the form of a brown-coloured conical scab, about one-eighth of an inch from the surface of the cornea. The globe of the eye was now discovered to have entirely lost its perception of external stimuli; no symptoms of uneasiness, and no movements of the eye-lids, followed, when the globe was touched in the first instance by the finger, nor when subsequently touched with lunar caustic. The child could, however, still move the eye-lids, and their movements corresponded, as before remarked, with those of the other eye. The sensitiveness of the left cheek was natural; and from the desire which the child manifested for strong beef-tea, in preference to weak mutton broth, it was inferred at least one of the gustatory nerves was not paralysed; but owing to the distress exhibited by the patient whenever any attempt was made to move him, and the difficulty of making him comprehend the necessary questions, it was not ascertained whether the left nostril and left half of the tongue were paralysed or healthy.

The ulceration continued to progress from the first appearance of the speck about nine or ten days; the eye then burst, and the humours were discharged. A considerable hæmorrhage also followed, and an eruption of petechiæ was then for the first time noticed on the lower extremities. All the symptoms now became rapidly worse. In the course of a day hæmorrhage followed from the bowels, the puerpera ascended over the trunk and upper extremities, and the child sunk exhausted, but only imperfectly comatose, about twenty days after the first appearance of the speck.

Upon examining the contents of the cranium, thirty hours after death, the dura mater was found to be marked with petechiæ over the upper circumference

of the cerebrum; and a scrofulous tubercle adhered, or had grown out of the anterior superior surface of that portion of the dura mater which forms the tentorium; in other respects this membrane was healthy. The arachnoid also seemed perfectly free from disease, and the brain firm, but not hard. A small quantity of a thin fluid, tinged with blood, was effused between the arachnoid and pia mater, at the upper circumference of the brain. A little fluid was found in both the lateral ventricles, and a loose coagulum of blood in the posterior cornu of the right ventricle. About f. 3j. of loosely coagulated blood was also extravasated between the convolutions of the left hemisphere of the cerebrum. Many small scrofulous tubercles were discovered in the cerebrum, about the size of peas; two others much larger, about three-quarters of an inch in diameter, were also found in the cerebellum; and one of the same dimensions nearly was situated about the posterior inferior portion of the pons varolii. The circumference of this tubercle was placed within the distance of one line from the apparent origin of the fifth nerve, on the left side of the pons varolii. The brain was carefully examined by Dr. Barker and Dr. Burton, but no other disease could be discovered either in the course of the fifth nerve, on the same side as the tubercle, or in the left cavernous sinus, or in the left orbit. As, however, the phenomena attending the ulcerative process in the above case nearly corresponded with those described by M. Magendie and M. Serres, to have followed the destruction of the healthy functions of the fifth nerve in their cases, we may ascribe the corresponding set of phenomena observed in the eye of W. Jolly to a similar lesion; and in the absence of direct evidence to the contrary, it may be attributed with much probability to the morbid action which occasioned the growth of the tubercle, noticed immediately beneath the apparent origin of the fifth nerve, on the left side of the pons varolii.

The cachectic condition of the fluids and solids of the body was well exemplified by the joint existence of puerpera and scrofulous tubercles to a remarkable extent. Capillary extravasation was observed in the three great cavities of the body, the cranium, chest, and abdomen; and all the principal organs were in a state of scrofulous derangement. The tubercles were as generally distributed in the case of W. Jolly, as they appear to have been in the case described by Mr. Earle, in the third volume of the *Medico-Chirurgical Transactions*. The abdomen, in particular, presented the characters noticed by Dr. Baillie (page 208, vol. 1, Wardrop's edition,) and the peritoneum and mesentery were thickly studded over with small scrofulous tumours.

The scrofulous habit predominated throughout the family. Of six children, including the patient, William Jolly, five had died about the age of 3 years; the sixth is not likely to thrive; and the mother died, after a protracted illness, in child-bed.

The treatment adopted in the above case was essentially palliative. Temporary alleviation only of the symptoms was derived from the use of remedies; and at the admission of the patient little hope was entertained of his recovery.—*London Medical Gazette*, June 6, 1835.

9. *Case of Protracted Abstinence from Food*.—The subject of this curious case is a woman, æt. 39, named Engeltje Van Der Vlies, resident at Punaeker: In her fifth and sixth years she suffered from worms and frequent convulsive fits; she, however, got rid of the worms, but remained in a debilitated condition for several years; in fact, up to her eighteenth year. At this time Napoleon's conscription carried off her brother, which so affected her, that from that time she again became a prey to frequent convulsive fits. At subsequent periods she was treated for hysterical affections and chronic inflammations of the intestines: her appetite was very small. It remained so until May, 1818, when she began to lose the use of her feet, refuse nourishment, and take nothing but drinks, and chiefly of buttermilk: medicines were always rejected immediately after being swallowed. In 1820 the respiration became abstracted. In March, 1822, up to which time the hysteria had been excessive, enema was administered, which brought away some fecal matter, after which time no feces or urine were ever passed, with one exception. She also gradually forbore from all fluids, except to rinse her mouth from time to time. In 1824 and 1825 she had repeated attacks of intestinal inflammation. In October of the latter year she passed, with dreadful pain and

violent spasmodic respiration, a small quantity of urine and a little stool: and in 1826, again, a little urine, which was tinged with blood. Since the 10th of March, 1822, she has therefore had only one motion, and only twice passed a remarkably small quantity of urine. Her spirits were always inclined to flag, and particularly latterly, when doubts were cast upon the truth of her history. She is of low parents, and has always, until very lately, been a servant in various families.

On the 11th Nov. 1826, she was subjected for one month to the scrutiny of a committee appointed by the Provincial Commission of Physicians established at the Hague. During the whole of this period she took no food of any kind whatever. Her occupations consisted in knitting, sewing, cleaning vegetables, and reading. Her mouth was usually rinsed with water, with tea, and twice with buttermilk, the quantities of which were measured before and after rinsing. She made no water, and passed no fæces during the whole month; no air was passed per anum, but she eructated very much. She got up at nine, A. M., and went to bed at ten or eleven o'clock, P. M.—*Ryan's London Med. & Surg. Journal*, 22 Nov. 1834.

10. *Ulcer of the Stomach Cicatrized*.—M. CRUVEILHIER communicated to the Anatomical Society at their session of the 1st of Sept. last, an example of this. The case was perfectly analogous to those already presented to the Society at different times. M. Cruveilhier had at an early period diagnosticated ulcer of the stomach, and on several occasions he has been able to pronounce with certainty on the existence of this affection. The following are the chief symptoms upon which he insists. The patient has, almost always, vomiting of blood; he recovers, and has a relapse in a short time. The digestion is difficult, the abdomen is the seat of colicky pains; he also passes blood by the rectum, and the region of the stomach is affected with a gnawing kind of pain, but we perceive no tumour. A symptom upon which M. Cruveilhier lays a good deal of stress is the existence of a *dorsal stitch* (*point rachidien*), that is to say, a severe and continued pain near the end of the dorsal vertebra behind; this is a phenomenon which he has very frequently met with. The symptoms go on increasing, and the patient dies from an abundant hæmorrhage. The professor considers this as a disease by no means so rare as is imagined.

11. *Case of Pulmonary Tubercles, fatal in the first stage of the Disease*. By Prof. ALMON.—The following case is one of tubercles in the lungs fatal in their first stage, when hardly any of them had suppurated, and agrees in its leading features with several others which were formerly laid before the Society, (see their Transactions, vol. ii. p. 287.) as being, in my judgment, of peculiar importance in reference to the question, whether the deposition of tubercles is, in any case, a result of inflammatory action. It is a case of a young man engaged in a laborious occupation, by which his strength and breath are daily tested; who enjoys good health up to a given time, when he is exposed to the usual causes of inflammation, in a high degree of intensity; who is seized with cough, with *dyspnoea*, and the usual symptoms of inflammation within the chest, and is relieved by the usual remedies; he is again repeatedly exposed to the same causes; his symptoms, which had never entirely left him, are aggravated, and from this time these symptoms, and particularly the *dyspnoea*, continue unabated, and even progressive until his death. Now, on dissection, while there are the usual marks of inflammation on the *pleura*, the morbid appearance in the substance of the lungs,—the only appearance which is adequate to explain the continually progressive, and ultimately fatal *dyspnoea*, is a great tubercular deposition; the tubercles so numerous, in so early a stage, and in so uniform a state, that they must have been formed subsequently to the well-marked exposure to cold, and the accession of febrile and inflammatory symptoms; and the other appearances such, that, unless we suppose the repeated application of the causes commonly producing inflammation of the chest, to have excited the growth of the tubercles, we cannot understand how they should have produced the fatal illness: and must regard the rapid growth of the tubercles, and the frequent application of the causes, as well as the constant presence of the symptoms of inflammation, as a merely accidental coincidence.

It would, indeed, be absurd to assert, that an attack of inflammation is the only condition necessary to the development of tubercles in the lungs. It is plain that some additional predisposing condition must be present, probably in the nature of the blood, perhaps in the structure of the lungs, to determine this peculiar effect to result from the inflammatory attack. But, whatever be the nature of the predisposition, we have good reason to believe that, as existing *per se*, it is not necessarily followed by the development of tubercles; and the principle which it is practically important to establish is merely this, that, by an inflammatory attack inadequately opposed, a tendency which was previously compatible with the healthy exercise of all the functions of the lungs,—which was imperceptible, and, for any thing we can learn to the contrary, might have remained inert,—may be so excited and exasperated as to lead to such a deposition of tubercles, as may be inevitably fatal within a few weeks.

Gilbert Farquhar, aged 22, admitted 23d August, 1834,—a sailor,—stated distinctly that his health had been very good till fourteen weeks before admission,—when, being on the American coast, he had been much exposed to cold and wet when exhausted by fatigue. He had then febrile symptoms, cough, pain of chest and *dyspnœa*, and was bled with relief. Seven weeks before admission, his vessel had left America for England, and, in consequence, as he believed, of fresh exposure and exertion during the voyage, his complaints were aggravated,—the *dyspnœa* became more urgent,—the pain of chest more general and severe, the cough increased, and the expectoration became more viscid and opaque, though never discoloured with blood. He then became somewhat emaciated, his febrile symptoms took somewhat the form of hectic, and his feet swelled.

Seven days before admission he had landed at Leith, and been bled, and taken medicine without relief;—he had also got drunk, and been out at night and exposed to cold, within that time.

On admission he had pretty severe and very frequent cough, with scanty, mucous, slightly discoloured expectoration, pain of breast increased by the cough, difficulty of lying on either side; his respirations were 48 in the minute, heaving and oppressed; his pulse 111, soft; skin rather hot; face flushed and somewhat livid; tongue slightly furred, moist, with thirst.

The chest heaved imperfectly on both sides on inspiration; the sound on percussion, pretty natural anteriorly, was dull on both sides in the posterior and lateral parts.

The sound of respiration was harsh and bronchial, and attended with subcrepitous râle, generally over the chest, and there was distinct resonance of the voice in the upper part of both sides.

His urine was scanty and somewhat coagulable by heat.

He had leeches and a blister, and was put on the use of calomel and opium, and digitalis. His cough abated, but his pulse became more frequent and feebler, his tongue dry and florid, his breathing very frequent, and he became delirious with tendency to stupor, rallied a little under the use of wine, but sunk finally on the 26th,—the fourth day after admission.

Dissection.—The *pleura costalis* and *pulmonalis*, on both sides of the chest, were firmly and generally united by lymph highly organized; in the lower and lateral parts of the chest, this substance was nearly one-fifth of an inch thick, and part of it had a somewhat fibrinous appearance. When freed from their adhesions, the lungs did not collapse, they felt firm, and on being cut into were found very uniformly thickly studded throughout their whole substance with small tubercles, of the size of pretty large pin heads; the only portion of lung free from this deposit was a small part at the lower end of the right lung, which was very vascular and somewhat dense. The portions of lung immediately adjoining the tubercles appeared very vascular, but in general not condensed. In the upper part of the right lung were two or three very minute cavities.

There was a considerable quantity of serum in the *pericardium*, but no disease of the heart.

The liver was much enlarged, with hypertrophy of its gray matters, and the cortical portion of the kidneys was slightly affected with a similar deposition of grayish lymph.

contains some highly interesting observations by Dr. Wagner, on the communication of malignant pustule from diseased animals to the human species. Dr. Wagner having heard that on the 22nd July, 1831, two persons in the village of Striesa, in Prussian Saxony, had died suddenly—that several others had fallen sick, and that in one farm seven head of cattle, with several pigs, had burst, immediately went there, where he collected the following details respecting the event.

On the herd of cattle returning from pasturage, July 13th, the bull fell suddenly prostrate, and was unable to rise again. At first it was attributed to a simple wound in the back-bone; he was immediately killed, and two peasants, Stack, the gardener, aged 40, and Zeinz, the vine-dresser, aged 30, both robust men, and in excellent health, skinned, cut up, and partook, with several others, of the flesh of the animal as food. Some days afterwards, several other animals belonging to the same farm fell sick in the same manner, shared the same fate, and their flesh was used as food by the same persons. All of them, however, quickly began to complain of uneasy sensations, heaviness in the precordial region, occasional pains in the abdomen, vertigo, &c., especially Stack and Zeinz, who had not only partaken of the flesh of the infected animals, but had handled them, and, in so doing, had been wounded in the hand.

Several more animals suddenly burst on the 15th and 18th. On examination, the abdomen was found inflamed, the spleen gangrenous and putrescent, consisting but of a membrane in form of a sac, containing a thick, black liquid; in several places under the hide, especially about the neck, were œdematous tumours. No doubt could now exist, that the malady was the true carbunculous affection. M. Wagner gives it the name of "gangrene of the spleen, (*Milzbrand*)," from the state of that organ as found in all the infected individuals examined; and to the septic humour which appears to generate the malady, "virus of gangrenous spleen, (*Milzbrandgift*.)"

On the 19th, the gardener Stack, though suffering for some days, endeavoured to walk a distance of three leagues, which, with the utmost difficulty, he accomplished. After having endeavoured to recruit his feeble state with a draught of malt liquor, he made an effort to return, but was seized with vomiting, pains in the abdomen, and fell prostrate on his back. He was carried home; icy coldness of the extremities, thence to the trunk, supervened; diarrhœa of black liquefied blood; convulsive movements of the head and limbs; legs blue and livid; nose sharpened; eyes hollowed; with great suffering in the abdomen, and repeated vomitings; but death relieved him on the 20th.

On the same day, the widow Gaertner, who had eaten of the meat, was affected much in the same manner; a black pustule also had appeared on one of her thighs. She was found dead in her bed on the following day, with a child still sleeping beside her and in perfect health. On the 22nd the decomposition of these two bodies was advanced nearly to liquefaction, and, therefore, precluded examination.

Eight other persons who had either come in contact with the infected animals, or had eaten of their flesh, were attacked with the epidemic on the 22nd of July, and a ninth on the day following. The general symptoms and sufferings were nearly the same in all. There was dryness of the skin; small, febrile, scarcely perceptible pulse; tongue not loaded; eyes natural, and body red and warm; no delirium. Some experienced a sense of pressure at the epigastrium, which was not, however, increased on drawing a full breath; most of them had a sweetish taste in the mouth; all had inappetence; two only were affected with vomiting; none of them had meteorism and tension of the abdomen. Some suffered anxiety, especially the vine-dresser, Zeinz, who, with the exception of a sensation of numbness in the affected thigh, did not complain of any more pain than the others. The anthrax in this individual had no inflammatory circle; it was surrounded by an induration, was insensible to the touch, of an oblong form in the direction of the limb, and extended in depth to the bone. The pustule commenced in a small spot the size of a pin's head, and extended without causing any pain, and had become entirely dry.

The second patient, who had a pustule on the thumb, likewise had no general symptoms; but he had a sensation of burning, with tumefaction and erysipelatous inflammation of the affected hand, which extended to the forearm, although the anthrax was scarcely the size of a ten-cent piece.

With the exception, also, of a young woman, who ate of the infected meat,

and in whom a pustule formed on the right forearm, with tumefaction and inflammation extending to the elbow, the other patients had no pustular eruption.

As the malady with most of these persons had already been of some days' duration when M. Wagner arrived, he found no indications requiring vomits. Those who were yet free from anthrax, he administered the most simple remedies; cataplasms of linseed and flour of bran in white wine vinegar applied to the præcordial region, infusion of fennel, or simply water acidulated with white wine vinegar, to promote and sustain a moderate perspiration; abstinence as far as possible. With those in easy circumstances, and with those, also, in whom carbuncles were developed, a more active treatment was necessary. An incision cross-ways was made in the pustules, and, with respect to Zeinz, to the depth of half an inch, cauterised, and the wound sprinkled with strong caustic potass. During nearly the whole operation he was insensible, but was at length painfully conscious of a pricking and burning sensation; the gangrenous scab, which was hard and dry, softened and sunk; a cataplasm of linseed and powdered oak bark in white wine vinegar was applied; small doses of camphor, and a strong decoction of quinquina mixed with a little of Hoffmann's anodyne liquid mineral.

All the infected were better the next day (24th) except one, an old woman, with a pustule on the thumb, which had been cut and cauterised. Every symptom aggravated; the whole arm swelled and inflamed to the shoulder; the forearm covered with reddish-blue vesicles; face red and burning; intense fever; diarrhœa; extreme prostration; skin dry and hard; sweetish taste in the mouth. Considering this case as altogether hopeless, M. Wagner only applied a cataplasm of new cheese to the wound.

In place of the gangrenous scab on the thigh of Zeinz there was a hollow, half an inch deep, circular and blackish, edge narrow and red; fever gone; appetite, strength, and spirits returned. This rapid amendment was preceded by a general and profuse sweat of infectious odour. The wound was sprinkled with quina and caustic potass, dressed with Baume Arcœus, and covered with the vinegared cataplasm; internal treatment as before.

29th. Sensibility restored to the infected member, but the gangrenous hollow was of twice the depth, and no separation could be discerned between the unhealthy and the sound. It was now dressed with powdered quinquina, balsam of Peru, brown ointment mixt with myrrh and camphor, and again covered with the vinegared cataplasm.

Aug. 1st. The gangrenous sloughs were separated with the bistoury; the wound was now three inches in length, two and a half in circumference, and three quarters in depth, of a clear red, and secreting laudable pus.

5th. Begins to be covered with fleshy pimples and granulations of good appearance.

11th. The whole excavation filled with them; occasional torpor in the feet, followed by a pricking sensation.

14th. Cold tumefaction of the integuments of the limb extending to the abdomen. Application of bags of warm bran; the fleshy pimples have pustulated to such a degree as to require the use of the caustic potash.

18. Cicatrisation of the wound beginning, and will, no doubt, be soon completed.

The old woman, whose case had been considered as utterly hopeless, on the 25th, two days afterwards, rallied considerably, to the great astonishment of M. Wagner. No critical perspiration had here supervened, but the diarrhœa was so excessive that the stools were passed without consciousness. The gangrenous pustule was suppurating; the vesicles on the fore-arm had sunk, and the swelling subsided from top to bottom. Same treatment external and internal as in the preceding case. The general state of amendment proceeded, and so rapidly, that on the 29th of July she could walk above a mile. The local affection was more tardy; the pustule extended all round the thumb to the back of the hand; the scab, though superficial, was hard, horny, dry, and black, and when a part of it detached itself a few days afterwards, the suppurating surface beneath emitted a fœtid odour. It was dressed with powdered quinquina, and shortly afterwards bore a favourable appearance, and thus continued to do; and on the 4th Sept. the cure was completed.

On the 6th of August two more patients presented themselves, although eight days had elapsed, during which no case of infection either in man or brute had oc-

curred, and every precaution was in use to prevent the spread of the epidemic. The persons affected were two fellow-servant women on the same farm, the one 26, the other 50 years of age; and though they had been many times in contact with the infected animals, they had never eaten of their flesh. The elder woman it appears had, while standing beside the infected old woman above mentioned, been stung by a fly in the inner side of the left arm. The little puncture became painful, swelled, and inflamed, and at length assumed the appearance of a dry and livid pustule. The younger woman could not give so decided an origin to the pustule which formed on the outer side of the right arm; it was surrounded with gangrenous vesicles, swelled and inflamed from the elbow to the shoulder; but it is necessary to state, that the hide of an infected animal had been found in her chamber. Might not this have been the origin? Might not some particles of the flesh or cellular tissue have been still adherent to the skin, and in its recent state have attracted the flies, whose puncture would then most certainly transfuse the virus? Such facts have been before observed, and examples of them are cited by Bertrandi and Monteggia.

Recourse was had to the same internal treatment as in the preceding cases; but as it was too late to incise the carbuncles, and M. Wagner having found that cauterisation after incision extended the gangrene, he only applied cataplasms of new cheese, or of bran and linseed. The internal remedies were also soon changed, and a beverage of curdled milk substituted, mixed with water, or an infusion of fennel.

The young woman's fever was of an inflammatory character; and pains in the chest supervening she was bled in the arm. The state of the pustule rendering the application of caustic potass necessary, it was tried, but soon removed, the pain arising from it being too excessive to be borne.

On the 13th of August, after profuse perspiration, the general symptoms, and also the swelling and inflammation around the pustules, subsided with both the patients.

Three weeks after the first appearance of the epidemic, another and fatal case of infection presented itself.

A young man, 20 years of age, servant on the same farm with the females above mentioned, had not only handled infected animals, but had eaten of their first flesh. Nevertheless, he continued in good health for a fortnight after the appearance of the malady; he was then seized with all its symptoms; a pustule on the forepart of the left arm spread an inch and a half in two days. Profuse sweat ameliorated all the symptoms for a short space, but on the 18th they returned, and with such violence, that on the evening of the same day he breathed his last.

In two villages adjacent to Striesa a few isolated cases of the infection were at the same time observed. Four men, in the prime of life, who had not only been in contact with infected animals, but had partaken of their flesh as food, were seized with all the symptoms of the epidemic, but recovered in the course of three weeks.

The following experiment is noticeable. Some fat of an infected animal was melted and thrown to two pigs, two dogs, and two cats; all of them burst while rolling on the grass, which they appeared to do for relief.

From the foregoing facts the author draws these conclusions:—

1st. That the greater or less violence of the malady depends not so much on the presence, number, and size of the pustules, as on the concomitant fever; the pustules being but a product or symptom of the malady, and may be altogether wanting, and the latter still exist.

2nd. The carbuncular fever, or gangrenous splenitis, with or without pustules, does not propagate itself by means of miasma in the air, but communicates itself by the ingestion of the flesh of infected animals, by contact with them, and by cutaneous absorption. The animal virus, which appears to be the principle of the malady, is fixed, unalterable, not to be decomposed by any process of cooking, as the foregoing statements prove.

3d. Whether the pustules be excised, cauterised, or not touched at all, the concomitant fever and inflammation proceed in their course, and the duration of the treatment is in no degree abridged; but experience demonstrates that violent measures oppose the curative efforts of nature, and may prolong the malady. If the infection be received internally, excision and cauterisation are useless; if on the

exterior surface they are only useful in the first state of the pustule, when yet very small; and it is rare that medical assistance is then sought. The topical remedies which proved most serviceable to M. Wagner were, warm emollient cataplasms, or those of new cheese, powdered quinquina, alone, or mixed with powdered charcoal. It is doubtful whether the administration of quinquina and camphor internally be really useful. But, under whatever treatment, the pustule remains ordinarily from four to six weeks; when the infected die it is frequently during a febrile paroxysm. In a slight attack, a vomit has often proved completely efficacious. Milk drunk in great quantity soon after the ingestion of the infectious substance is of use by provoking sickness and vomiting.

M. Wagner attributes the frequency of carbuncular affections, so observable in summer in the Circle of Schweintz, where he practises, to the great number of pools and ponds of stagnant and filthy water in the vicinity of the Elter, and which evaporate during the great heats.—*Gazette Méd. de Paris*, 28 Feb., 1835.

13. *Eruption caused by the Internal Use of Copaiba*.—Dr. THOS. T. HEWSON, of this city, in a paper in the *N. A. Med. and Surg. Journ.* v. 72, called the attention of the profession to the occurrence of an eruptive disease resembling rubeola, in persons who had taken the balsam copaiba. The following interesting case of this description of eruption is recorded by Mr. RALEIGH in the *India Journal of Medical Science*, for April, 1834. Mr. H. æt. about 30, was taking for the cure of a virulent gonorrhœa, a mixture composed of balsam copaiba, cubebs, and nitric æther: after a week he felt as if he had taken cold, the eyes were watery and throat a little sore, for two days, when an eruption exactly resembling measles made its appearance on the face, extremities and body generally; but particularly thickly over the nates and shoulders. The mixture was discontinued, and as he had no febrile symptoms, only a mild laxative was prescribed every morning. After four days the eruption flattened down, and left only copper coloured patches, which in four days more were extinct; no disquamation of cuticle took place; the gonorrhœa continued unabated, and he recommenced copaiba mixture without its occasioning a return of the eruption. He is positive he had measles when a child.

Mr. Raleigh has recorded a second case, in all respects similar to the above, in the same journal for June, 1834.

14. *Case of Chronic Cough, with Remarks*. By ROBERT J. GRAVES, M. D., (extracted from the Clinical Lectures delivered at the Meath Hospital during the session of 1831-5.)—Allow me to direct your attention to-day to the case of J. Jowson in the chronic ward, labouring under an attack of exasperated chronic bronchitis, a disease which derives its chief importance from the circumstance of being exceedingly common. There is no morbid affection of the system more frequent or more general than chronic bronchitis, it is of every day occurrence in dispensary practice, it is one of those cases which you will be constantly called on to treat, and hence the study of its nature and treatment has strong claims on your attention.

This man is, as you have seen, about the middle age in point of years, but he is old in constitution. In this country you will find most of the labouring poor exhibiting symptoms of premature old age, the combined result of poverty, intemperance, and hardship. Obligated to work in the open air in bad weather, they get catarrhal affections, which are renewed by repeated exposure, and prolonged for want of proper care. The natural effect of cold frequently renewed and generally neglected is, that a tendency is produced in the bronchial mucous membrane to become congested and inflamed with facility, until at length the derangement becomes permanent, and the mucous membrane no longer returns to its normal and healthy condition during the intervals.

The secretion of the mucous membrane of the bronchial tubes, in a perfectly healthy person, is almost entirely destitute of matter to be expectorated. In the normal state, the secretion of the bronchial mucous membrane, though continually going on, scarcely ever exists in superfluous quantity, for a certain proportion of it is carried off by exhalation or absorption; *a perfectly healthy person, breathing a pure air, has no expectoration whatsoever*. The moisture secreted by his bronchial mucous membrane contains nothing that the expired air cannot carry away in

vapour, without leaving any residuum which gradually accumulating would at length require to be expectorated. In this respect the bronchial mucus in the healthy state differs from the mucus of other membranes of the same class; but disease destroys this beautiful provision, and gives rise to a secretion of morbid mucus which cannot be gotten rid of in the usual way, and which must, therefore, be expectorated. Hence it is, that persons in whom a chronic state of congestion of the bronchial membrane has been generated by repeated colds, have a secretion of superfluous matter always going on, and are constantly expectorating. This may continue for several years without much inconvenience; the principal annoyance the patient suffers is in getting up the phlegm in the morning. At this period there is always an accumulation of fluid in the lungs after the night, during which the cough is less frequent, and expectoration less copious.

Here let me remark that although a person may cough violently during his sleep, he never expectorates. Expectoration is accomplished by the attention being directed to the chest, by an act of volition being put in force, so as to cause a constriction of the bronchial tubes and generate a current of air of sufficient strength to expel the mucus. To effect this, the mere act of coughing is not sufficient, and, consequently, *we do not expectorate during sleep*; for this purpose it is necessary for the patient to be awake.

Frequently recurring catarrhal affections, besides generating a state of chronic derangement of the mucous lining of the lungs, have a necessary tendency to produce other bad effects. Dyspnoea is an ordinary attendant on chronic bronchitis, the vesicular tissue enfeebled by disease loses its natural elasticity, and hence the act of respiration is performed weakly, and with considerable difficulty. In addition to this, the stress thrown on the air-cells and passages, gives rise to emphysema and dilatation of the bronchial tubes.

When this man came into the hospital, he was labouring under an exacerbation of his chronic bronchitis from a fresh attack of cold, he also suffered from dyspnoea with a tendency to emphysema, and had been much debilitated by the frequent recurrence of his pulmonary symptoms. I do not intend to make any particular observations here on acute bronchitis supervening on chronic; it is a dangerous disease requiring prompt and careful attention. I merely refer to this case to point out the remedies which were employed and the principles which guided me in their selection.

At the time of our patient's admission, the fever which accompanied the acute attack had subsided. His pulse was tolerably quiet, neither did he present any derangement of the heart's action, and so far had escaped one of the consequences of chronic disease of the lung, namely, dilatation and hypertrophy of the right ventricle. Observe, the most important features in this case, so far as treatment is concerned, were these; there was no general inflammatory condition of the system present, he had neither hot skin, nor quick pulse, his expectoration was copious, the chest sounded well on percussion, and the only stethoscopic phenomena observed were extensive minute and moist bronchial râles. The case then stood thus, extensive bronchial inflammation with copious expectoration, unaccompanied by fever, and occurring in a debilitated constitution. All weakening measures were therefore contra-indicated. It is true that the man had dyspnoea, and complained of tightness across his chest, circumstances which might appear to demand the use of the lancet or leeches; if these means had been employed, he would certainly have experienced some relief; but in the course of a few hours the symptoms of distress would have returned, the weakness superinduced by bleeding would give rise to increased secretion into the bronchial tubes, and the patient would be worse than before. Under these circumstances we refrained from using the lancet or leeches, but, deeming it advisable to get rid of the last traces of inflammatory action, we gave the following mixture:—*R.*—*Misturæ amygdalarum*, ℥xij.; *Nitratis potassæ*, 3 ij.; *Tartar. emetici*, gr. j.; *Tinctur. opii camphorat.* ℥ ss.; *Fl. mistura pectoralis*, *sumat cochleare j. amplum omni horâ, vel urgente tusse.*

In explaining the rationale of this mixture, it is hardly necessary for me to state why the almond emulsion was used. In all cough bottles it is of importance that the basis should consist of some mild mucilaginous fluid, and hence we generally employ for this purpose demulcent syrups, emulsions made with olive oil, spermaceti, or almonds, or decoctions of mucilaginous seeds and roots. With the al-

mond emulsion we combined tartar emetic and nitrate of potash, both antiphlogistic remedies, and calculated to act with peculiar effect in relieving congestion of the bronchial mucous membrane. You are aware that nitrate of potash in large doses is a powerful antiphlogistic, and you have seen it prescribed with excellent effects in cases of acute arthritis treated in this hospital. Nitrate of potash, when given to the amount of two or three drachms in the day, combined with two or three grains of tartar emetic, is, next to bleeding, the most efficient means we possess of reducing inflammatory action, and were I to be asked what remedies I should employ in combatting inflammation, supposing there were no such things as the lancet, or leeches, or calomel, I should certainly say nitrate of potash and tartar emetic. When given in small doses this combination proves also extremely serviceable in less severe cases, and it was on this account we gave it in the present instance. To this we joined the camphorated tincture of opium, convinced that its stimulant properties could not prove injurious when combined with antiphlogistics, although it would be improper to administer it alone. Experience has taught that when camphorated tincture of opium is given in cases of chronic cough with expectoration, it will (if much inflammatory action be present) check the expectoration and bring on dyspnoea. But when combined with nitrate of potash and tartar emetic, its bad effects are corrected, while its sedative influence remains unimpaired.

In addition to this, I ordered the nitro-muriatic acid liniment to be rubbed over his chest. * This liniment we are much in the habit of prescribing where a rubefacient is required. It is made by diligently mixing one drachm of nitro-muriatic acid and one ounce of lard, by means of a wooden or ivory spatula. When this mixture is complete, two drachms of spirits of turpentine are added; these ingredients soon separate from, and mutually react upon, each other, so that the liniment is spoiled: we, therefore, never make it in large quantities. As his bowels were constipated, I gave him a pill composed of three grains of blue pill, quarter of a grain of colchicum, two grains of scammony, and half a grain of capsicum. Colchicum acts on the biliary secretion, particularly when combined with blue pill, and hence promotes the general action of the intestines. With these I combined a little capsicum in consequence of the patient's complaining of being annoyed by constant flatulence. It is a curious fact that every chronic derangement of the bronchial mucous membrane is accompanied by flatulence. Whether this arises from the irritation of the bronchial membrane spreading by continuity of tissue, and rendering the tongue foul, the stomach weak, and the digestive function unnatural, or whether the derangement of the bronchial mucous membrane, and the imperfect performance of the function of respiration, cause the secretion of air from the lungs to be diminished, in consequence of which air is secreted from the intestinal mucous membrane by a vicarious action, I cannot exactly state, but I think the latter hypothesis not very improbable. It is well known that the mucous membrane of the stomach and bowels enjoys the power of secreting and absorbing air; it secretes carbonic acid, nitrogen, and also other gases which seem peculiar to it, such as sulphuretted hydrogen. I am not aware that there is any distinct evidence that the last named gas is ever secreted by the bronchial mucous membrane, but as there are some cases in which the breath is remarkably foetid, I think it remains for future experiments to decide whether it may not be so under certain circumstances. It is, however, by no means improbable, that when an adequate cause produces considerable derangement in the respiratory function, and alters the nature of the aerial secretion from the lung, the mucous lining of the stomach and bowels may take on a vicarious action, and secrete gases analogous to those which in the normal state are secreted by the mucous membrane of the bronchial tubes. I think I have seen some well marked examples of this translation of the function of secreting air from the pulmonary to the intestinal mucous system in cases of spasmodic asthma and hysteria. I have seen patients who, previously to an attack of asthma, had no symptoms of flatulence, and observed that accordingly as the disease proceeded and the derangement of the respiratory function increased, the bowels became distended with air. In hysteria, also, where derangement of the respiratory function is plainly denoted by the heaving of the chest, sighing, and dyspnoea, there is generally enormous and sudden inflation of the belly, loud borborygmi are heard, and there is a constant disengagement of air upwards and downwards.

But to return to our patient. After we had removed all traces of active inflammation, and the case had been reduced to one of ordinary chronic bronchitis, we changed his cough mixture for the following:—*Rx.* *Misturæ ammoniaci*, ʒvj.; *Carbonatis sodæ*, ʒss.; *Tincturæ opii camphorat.* ʒss.; *Tincturæ hyoseyami*, ʒj.; *Vini ipecacuanhæ*, ʒij.; *Fiat mistura pectoralis, sumat cochl. j. amp. pro dose.*

The carbonate of soda was given with the view of removing some acidity of stomach which he complained of; besides, it is a fact that alkalies produce good effects in many cases of pulmonary irritation, as must have struck you from witnessing the success of the popular remedy for whooping-cough, recommended by Mr. Pearson. You will observe, gentlemen, how very different this cough mixture is from the former; it is much more stimulating, and at the same time more powerfully anodyne, the opium being here less diluted, and being aided by henbane; the addition of ipecacuanha was intended to prevent a too speedy action on the part of the other ingredients, in diminishing the expectoration and constipating the bowels.

I wish to call your attention to the plan of treatment, not with reference to this case alone, but with respect to chronic bronchitis in general. We first gave a combination of nitrate of potash and tartar emetic, with the view of removing any remaining traces of inflammatory action; we next prescribed the *misturæ ammoniaci* with camphorated tincture of opium and carbonate of soda, &c., and, finally, when the cough became entirely chronic, we gave the compound iron mixture with tincture of hyoseyamus in draughts, and an electuary consisting of sulphur, cream of tartar, and senna. I need not repeat what you will find in every treatise on *materia medica*, with respect to the use of the compound iron mixture; it is not to be given until all traces of fever and local inflammation are removed, and never until the secretion from the lungs is copious and expectoration free. In such cases the patient is generally weak, and the inordinate secretion adds to his debility. Here the compound iron mixture proves extremely serviceable, but you should commence its use with caution. Some persons are in the habit of giving it in doses of half an ounce two or three times a day; this I never do; I begin with a drachm twice or three times a day in an ounce of spearmint water, and add from half a drachm to a drachm of tincture of hyoseyamus. The dilution with mint water, and the addition of tincture of hyoseyamus, render it more valuable, by causing it to be more easily borne by the system, and less likely to be rejected by the stomach.

Let me now explain my reasons for ordering the following electuary:—*Rx.* *Electuarii sennæ*, ʒij.; *Pulveris supertart. potassæ* ʒj.; *Sulphuris loti*, ʒss.; *Syrupi zingiberis*, q. s. *Ut fiat electuarium, sumat cochleare, j. parvum bis vel ter quotidie.* In the first place, when giving any stimulant medicine internally, it is essentially necessary to attend to the state of the bowels; in the next place, keeping the bowels freely opened has a very remarkable effect in diminishing inordinate secretion from the bronchial tubes. Where the patient's strength can bear it, I often diminish supersecretion from the lung by strong hydragogue purgatives, as you saw in the case of a patient in the chronic ward, who had orthopnoea and such an excessive secretion into the bronchial tubes as to threaten suffocation. The patient being a strong man, and having no symptom of intestinal irritation, I prescribed a bolus, composed of a grain of elaterium, two of calomel, ten of jalap, and five of scammony, forming a powerful hydragogue purgative, which produced several copious fluid discharges. The man bore its operation well, and I repeated it in two days with the most decided benefit; indeed he experienced from it more complete relief than he would have done from bleeding, blistering, or any other remedial means. In some cases of bronchitis with excessive secretion, you will be able to produce very striking effects by the use of hydragogue purgatives; this, however, will require both judgment and discretion, and it should be borne in mind, that in the majority of cases there are many circumstances which contraindicate their employment.

With respect to the use of sulphur in this case, I was led to prescribe it, in this and many other similar cases, from observing that chronic cough and long continued congestion of the bronchial mucous membrane were more effectually relieved by the use of sulphureous waters, such as the Lucan and Harrowgate Spas, than by any other remedy that could be devised. I may here also observe, that the Lucan waters produce very striking effects in diseases of the skin, and

that I have seen intractable cases of psoriasis, which lasted for years, yield to the use of the Lucan waters. It would appear that sulphur, when taken into the system, is either eliminated by the kidneys in the form of sulphates, or exhaled from the skin and mucous tissues in the form of sulphuretted hydrogen, and in this way we arrive at some explanation of its action in diseases of the skin and chronic irritation of the bronchial mucous membrane. In fact, paradoxical as it may appear, sulphur, although evidently stimulating, is, nevertheless, very efficacious in curing many diseases connected with, or depending on, inflammation or congestion. Thus exhibited internally and properly combined, what remedy gives such prompt and certain relief in that painful affection, piles? How rapidly does the specific irritation of the skin, termed scabies, yield to its use? These and similar facts, which might be brought forward in abundance, ought to countenance the use of this medicine in certain chronic inflammatory affections of the bronchial tubes. The celebrated Hoffman was in the habit of adding sulphur to his cough prescriptions in all cases of chronic bronchitis in the aged and debilitated, and I have no doubt that from five to ten grains of sulphur, taken three or four times in the day, is one of the best remedies that can be prescribed in cases of chronic cough, accompanied by constitutional debility and copious secretion into the bronchial tubes. Within the last four years my attention has been particularly directed to the use of sulphur in this and other affections, and I can state from experience that it is a most valuable remedy. As it has a tendency to produce elevation of the pulse, increased heat of skin, and sweating, it will be necessary to temper its stimulant properties by combining it with cream of tartar, which is a cooling aperient, and has the additional advantages of determining gently to the kidneys.* The addition of the electuary of senna gives additional value to the combination, and quickens its action on the intestines.

Such, gentlemen, are the principles that guided me in prescribing for this man. The long continuance of the complaint, the serious and extensive derangement of the pulmonary mucous membrane, the age, debility, and impoverished circumstances of the patient, forbid me to hope for a perfect cure; but he has been much relieved, and the same remedies applied to less desperate cases would have produced very striking effects. Still, if fortune were this moment to prove favourable to the poor fellow; if, when he leaves the hospital, instead of returning to hardship and exposure, he had the means of living in comfort, taking proper care of himself, travelling for health and amusement, and using a course of chalybeate spa waters, I have little doubt that with these aids the reparative powers of nature would succeed in obliterating every trace of pulmonary derangement.—*London Medical and Surgical Journal*, March 14, 1835.

15. *Remarks on Cough.* By ROBERT J. GRAVES, M. D.—Permit, me, gentlemen, to make a few observations here, on what is properly termed cough. What is cough?—A sudden and violent expulsion of air from the lungs, produced by forcible contraction of the diaphragm, aided by the abdominal and other expiratory muscles. What is the cause of cough?—Pulmonary irritation. What is the nature of this pulmonary irritation?

Here, gentlemen, is a question which every practitioner should put to himself when called on to treat a case of cough, and what affection is there which so frequently demands our assistance and tasks our ingenuity? How abundant, how varied, are the examples of cough we meet with in our daily practice! How obscure do we not find its nature on many occasions, and how difficult and perplexing its treatment! Where the source of irritation is manifest, where the nature of the disease is simple and easily detected, where, after a proper examination, we can point to some part of the respiratory system, and say, here is the seat of the disease; in such cases, indeed, our course is sufficiently clear, we may proceed with confidence, and practice with success. But how often are we, after weeks and even months of close and painful attention, baffled in our best directed efforts, and forced to admit the humbling conviction that all our remedies are inefficient and useless, and that our character, as well as that of the profession, is likely to suffer in public estimation? How often, too, do we discover

*Baglivi has well said, "In morbis pectoris ad vias urinæ ducendum est."

with surprise, that the cough which we have been treating for weeks as a pure pulmonary affection, depends not on any primary derangement of the respiratory system itself, but upon the irritation of some distant organ, or upon peculiar conditions of the whole economy!

Before I proceed to inquire into the nature of the various sources of pulmonary irritation producing cough, I wish to remark that the exciting cause, or, in other words, that which immediately precedes and seems to give rise to a tendency to cough, is a sensation of tickling in the mucous membrane of the trachea, close to its bifurcation, and opposite the hollow at the fore part of the neck. It is also a curious fact that this sensation of tickling or itching is peculiar to this situation, being never felt in any other part of the pulmonary mucous system. Whether the disease be seated above, as in case of laryngeal affections, or whether it be below, as in case of disease of the lining membrane or parenchyma of the lung, it is here alone that the tickling sensation is felt. Another circumstance equally remarkable and equally difficult of explanation, is the effect of position in cough. Persons labouring under slight bronchitis, or rather slight inflammation of the trachea, who scarcely cough half a dozen times during the course of the day, will, the moment they lie down at night, be seized with a violent and harassing cough, which may last for several minutes, and sometimes for hours, with little intermission. We can easily understand why empyema or pneumonia of one side of the chest may produce cough in certain positions, and not in others, for here we have an obvious physical cause; the accumulated fluid in the pleural cavity in the one case, and the diseased lung, whose specific gravity has been much increased by solidification, in the other, exercise an inconvenient degree of pressure on the sound lung, and hence give rise to irritation and cough, particularly in those positions which favour the operation of these physical causes of irritation. Here, however, the cause of irritation is very obscure. It may (but this I merely offer as an hypothesis) depend on the fluid secreted by the mucous membrane trickling over that part of the trachea where the tickling sensation is felt, the flow of mucus to this part being favoured by the recumbent position. That it does not depend on any supposed temporary congestion and irritation of the lung, from the impression made on the skin by cold bed-clothes, I am quite convinced, for I have repeatedly observed it in persons warmly dressed, from merely lying down on a sofa close to the fire. You will, therefore, bear in mind, gentlemen, that although usually, when coughing is induced by any sudden change of position, we may infer that it is connected with some serious lesion of the lungs, or pleura, yet we must not attach too much importance to this symptom in arriving at this conclusion, for cases are occasionally met with in which mere tracheal or bronchial inflammation is attended with the same symptom to a very remarkable degree.

I may observe, *en passant*, that the sensation of tickling, or itching, appears to be almost exclusively confined to the skin. Here it appears to be dependent on slight causes, apparently incapable of producing that modification of nervous sensation, termed pain. In other cases it seems to be connected with the rise and decline of the phenomena which indicate inflammatory action, arising in the first case (where it is generally less observable) from that nervous modification which precedes inflammation, and in the second being connected with some change in the nerves of the part which precedes its return to a healthy condition. It does not appear to affect the mucous tissues, except in a very slight degree, and under peculiar circumstances. It is not observed in the pulmonary mucous tissue, except at that part of the trachea which I have already mentioned, and it does not occur in any part of the intestinal mucous membrane. The only parts connected with the intestinal tube, in which it is felt, are the nose and on the anus, and here it is within the reach of scratching, the ordinary mode of relief. This is a fortunate circumstance, gentlemen, for if any part of your bowels were to itch as your skin sometimes does the annoyance would be quite intolerable. If the presence of lumbrici in the small intestines, instead of producing a troublesome itchiness of the nose, as it often does,—if it produced, I say, a degree of itching equally intense in the mucous membrane of the bowels and stomach, what patient could endure greater torments than a person so afflicted? If ascarides gave rise to as intense a degree of itching within the colon, as they occasion at the verge of the anus, how dreadful would be the suffering thus induced!

Passing over the obvious and well known sources of pulmonary irritation, producing cough, such as bronchitis, pneumonia, &c., the first cause to which I shall direct your attention is one of not unfrequent occurrence, and where a mistake in diagnosis may lead to a practice useless to the patient and discreditable to the practitioner. The best mode of illustrating this is by giving a brief detail of a case which I attended with Dr. Shekleton. A young lady, residing in the neighbourhood of Dorset-street, was attacked with symptoms of violent and alarming bronchitis. The fits of coughing went on for hours with extraordinary intensity; it was dry, extremely loud, hollow, and repeated every five or six seconds, night and day, when she was asleep as well as when she was awake. Its violence was such that it threatened, to use a vulgar but expressive phrase, to tear her chest in pieces; and all her friends wondered how her frame could withstand so constant and so terrible an agitation, and yet she fell not away proportionally in flesh, had no fever, and her chest exhibited nothing beyond the râles usually attendant on dry bronchitis. She was bled, leeches, blistered, and got the tartar-emetic mixture, but without experiencing the least relief. We next tried anti-spasmodics, varying and combining them in every way our ingenuity could suggest, still no change. We next had recourse to every species of narcotics, exhibiting in turn the various preparations of conium, hyoseyamus, opium, and prussic acid, but without the slightest benefit. Foiled in all our attempts we gave up the case in despair, and discontinued our visits. Meeting Dr. Shekleton some time afterwards, I enquired anxiously after our patient, and was surprised to hear she was quite recovered and in the enjoyment of excellent health. *She had been cured all at once by an old woman.* This veteran practitioner, a servant in the family, suggested the exhibition of a large dose of spirits of turpentine, with castor oil, for the purpose of relieving a sudden attack of colic; two or three hours afterwards the young lady passed a large mass of tape worm, and from that moment every symptom of pulmonary irritation disappeared.

The next kind of cough, in which the cause of pulmonary irritation is often misunderstood, is that which occurs in hysteric females. This kind of cough is one of the most alarming diseases in appearance you can possibly witness; in some it is loud, ringing, incessant, and so intensely violent, that one wonders how the air-cells, or blood-vessels, escape being ruptured. In others it is quite as incessant, occurring every two or three seconds, night and day, but is not very loud, and, indeed, in some it scarcely amounts to more than a constant teasing hem; in general the pulse is quick, but it is the quick pulse of hysteria, not of inflammation or fever. The patient suffers no aggravation of the cough from inspiring deeply, and her countenance exhibits no proof of malaëration of the blood, on the contrary it is blanched and pallid. She complains of variable, or deficient, appetite, headache, cold feet, and irregular or absent catamenia; although the cough continues for weeks, or even months, she does not emaciate like a person in incipient phthisis, although so much disturbed by the cough, and subsisting on so small a quantity of food.

Here the history of the case, a knowledge of the patient's habit, and the use of the stethoscope, are of great value. You will find that the patient is subject to hysteria, that she is generally pale and of a nervous habit; that the attack came on suddenly, and was superinduced by mental emotion, or some cause acting on the nervous system, or else arose gradually as one of the sequelæ of catamenial disturbance, that the heat of skin and state of pulse are by no means proportioned to the violence of the symptoms, and the stethoscope will tell you that the signs of organic derangement of the lung are absent. You will thus be enabled to arrive at an accurate notion of the nature of the disease, and you will save the patient from the useless and often dangerous employment of antiphlogistic means. Bleeding and leeching are, generally speaking, injurious; such cases are best treated by stimulants, anti-spasmodics, and stimulant purgatives, together with change of air, travelling, and the use of chalybeate spa waters.

The third species of obscure cough to which I shall direct your attention, is one of deep importance for many reasons. It is that species of cough which depends upon pulmonary irritation connected with a venereal taint in the system. That syphilis may attack the pulmonary as well as the cutaneous, osseous, mucous, and other tissues, is not a discovery of modern times; it is a form of the disease long known, and you will find it mentioned by many of the older writers.

Since syphilis has been classed by Willan and others among diseases of the skin, this notion seems to have been either abandoned or forgotten, but, as it strikes me, with very little justice. I entertain a firm conviction, that syphilis may affect the pulmonary as well as it does the cutaneous, or mucous, or osseous tissues, and that a patient, labouring under a venereal taint, may have irritation from this cause set up in the lung as well as in any of those organs in which it is usually manifested. The first person who mentioned this circumstance to me was the late Mr. Hewson, and since that time I have had repeated opportunities of confirming the truth of his opinion. Richter, Alibert, and Paget have well observed, that Willan and Bateman's classification of diseases of the skin is liable to the paramount objection, that it has no reference to the constitutional origin of cutaneous affections. I have the very same fault to find with modern treatises on diseases of the lungs. Pathologists have indeed inquired most accurately into the numerous morbid changes to which the pulmonary tissue is subject, but they have omitted a no less important part of their task, which is to investigate the states of constitution which originated these changes. The agency, indeed, of scrofula has been inquired into with care, but how little attention has been paid to rheumatism, gout, syphilis, and scurvy, the fruitful sources of numerous diseases of the chest.

By far the most interesting point, connected with this affection, is its diagnosis; on this every thing depends. The great importance attached to the diagnosis arises from the circumstance of this disease presenting symptoms analogous to, and consequently being frequently confounded with, phthisis. A patient comes to consult you for cough; you find him pale, emaciated, and feeble; he sleeps badly, and is feverish at night, and has a tendency to sweat. Here there may be a double source of error. If the disease be mistaken for tubercle, and mercury not given, bad consequences will result; on the other hand, if tubercles be present, the effect of administering mercury will be to precipitate the disease to a fatal issue.

What is the nature of this disease, and how are you to recognise it? Mainly, I answer, by the history of the disease. If the patient's sufferings have commenced at the period of time, after primary sores on the genitals, when secondary symptoms usually make their appearance; if some of his complaints are clearly traceable to this source; if, along with debility, night-sweats, emaciation, nervous irritability, and broken rest at night, we find cough; and if this group of symptoms have associated themselves with others, evidently syphilitic, such as periostitis, sore throat, and eruption on the skin, then we may, with confidence, refer all to the same origin, and may look upon the patient as labouring under a syphilitic cachexy, affecting the lungs as well as other parts. In forming this diagnosis much caution and care are necessary, and we must not draw our conclusion until we have repeatedly examined the chest by means of auscultation and percussion; if these fail to detect any tangible signs of tubercles, we may then proceed to act upon our decision with greater confidence, and may advise a sufficient but cautious use of mercury. Under such circumstances it is most pleasing to observe the speedy improvement in the patient's looks and symptoms; the fever, night-sweats, and watchfulness diminish, he begins to get flesh and strength, and, with the symptoms of lues, the cough and pectoral affection disappear. I am not prepared to say which of the pulmonary tissues is most usually attacked by the venereal poison, but I believe that it chiefly tends to the bronchial mucous membrane, although, like other animal poisons, *e. g.*, those of measles and scarlatina, it may also occasionally produce pneumonia.

The fourth species of obscure pulmonary irritation, producing cough, is that which is connected with a gouty diathesis. Gout may attack almost every tissue in the body. We may have it in the joints, as you are all well aware of, we may have it in the muscles and muscular aponeuroses, forming what has been termed the rheumatic gout; it occurs frequently in the fibrous tissues, and I have several times observed it in the cellular substance of various parts of the body, forming either diffuse œdema or tumours, which are exceedingly tender to the touch, and which are removed by treatment calculated to relieve the constitutional affection. It may attack the heart, giving rise to true pericarditis, or else to a functional disease with palpitations, a sensation of fluttering and sinking about that organ, and very remarkable intermission of the pulse; or it may affect the stomach, occa-

sioning dangerous spasm, or various dyspeptic symptoms; or it may seize on the intestines, producing irritation, colic, and gouty diarrhœa. I remember a patient, of a confirmed gouty habit, expressing a great deal of surprise at getting an attack of gout in the testicle, for he could not conceive how a disease, which generally affects the joints, could occur in an organ so different in its nature. I replied that the matter could easily be explained; because fibrous tissue, which gout most frequently attacks, enters into the composition of the testicle as well as that of the joints. Indeed the testicle, with reference to the texture of its envelopes and the extent of motion it enjoys, may be said to be provided with a sac-like joint. In like manner, gout very frequently attacks the mucous membrane of the trachea, or bronchial tubes, causing a dry, annoying, and often very obstinate cough. Where this cough comes on along with the fit of inflammation of the joints, its true nature is frequently overlooked, and it is believed to have originated in cold, and to be mere common bronchitis. No matter, gentlemen, what be the cause of inflammation in a gouty habit, no matter what the organ attacked by the inflammation be, it almost invariably assumes the character of true gouty inflammation. If a gouty person sprains a toe, or an ankle, matters, after progressing for a time in the ordinary way, are sure in the end to exhibit a change of character, and the inflamed parts are observed either to grow unexpectedly worse, or to become stationary, at a time when a speedy termination of the local affection seemed approaching. This is owing to its being now modified by the constitutional tendency to gout, which localizes itself in the affected part. Precisely the same relations may be often observed between common bronchitis, produced by cold in a gouty habit, and the gouty bronchitis it indirectly produces. Gouty bronchitis often becomes chronic, continuing until it is relieved by a regular fit of the gout in the extremities.

The fifth species of pulmonary irritation, in which the source of the disease is more or less obscure, is that which is connected with the scorbutic diathesis. It is important to be aware of this, particularly for those who have charge of the health of the poorer classes, which is almost of more value than that of the rich, for on it their labour and their means of support depend. Among the poor, particularly in cities where the majority live on salt provisions, the scorbutic diathesis is very prevalent. It manifests itself either in the form of puerpera, or in tendencies to hæmorrhage from the nose, stomach, bowels, and bladder. It sometimes attacks the lungs, producing irritation of the bronchial mucous membrane, with cough, and spitting of blood, and occasionally gives rise to pulmonary apoplexy. It is evident that pulmonic cases of this nature, originating in a scorbutic diathesis, produced by confined air, damp lodging, and a salt diet, will require a treatment peculiar to themselves, both during the attack and during convalescence.

The last source of pulmonary irritation, to which I shall direct your attention, is that which proceeds from scrofula. You all know that scrofula has a tendency to attack every tissue in the body, but you may not perhaps be aware, that it may affect those tissues in very different ways, and that scrofulous irritation may manifest itself in various forms, from the most trifling and transitory to the most extensive and permanent. I recollect a case I attended with Dr. Jacob, in which this fact struck me very forcibly. A fine boy of high complexion, precocious intellect, and other marks of the scrofulous diathesis, got an attack of the scrofulous ophthalmia of an intense character, and it required all the skill and ingenuity of Dr. Jacob to save him from blindness. During the period of our attendance, his brother (who was also of a strumous habit, began to complain of parts of his arm being sometimes a little sore. This circumstance attracted my attention, and on examination I found that several circular diffused swellings, of various sizes, often equalling half a crown in diameter, had successively appeared on different parts of his extremities and body. They evidently depended on inflammation of the subcutaneous cellular tissue, and exhibited a remarkable example of a most transitory local affection, produced by a constitutional cause, for these swellings arose, arrived at their acmé, and subsided in the space of ten or twelve hours; they constituted, in truth, the first efforts of the scrofulous diathesis, to localize itself, and, after a few weeks' continuance, they were replaced by distinct and *fixed* scrofulous inflammation of the metatarsal bones.

Here was a very curious and instructive fact. A boy, evidently of a scrofulous habit.

lous diathesis, has circumscribed tumours, which arise, come to maturity of irritation, and subside in the course of a few hours. In some weeks afterwards, scrofulous irritation, in a decided and permanent form, fixes itself in the foot, producing inflammation and ulceration. From this it may be inferred, that scrofula (for in this case I am firmly convinced these tumours were connected with strumous diathesis) may attack parts not only in its more permanent and destructive forms, but also in a manner so trifling and so transitory, as to subside in a few hours, and leave no trace of its existence. The inferences deducible from this fact are numerous and important, for if scrofula may thus produce an acute and transitory inflammation of the subcutaneous cellular tissue, surely it may occasionally give rise to somewhat similar affections of internal organs, as the bowels, the lungs, &c., and thus may occasion an acute bronchitis, a pneumonia, or an inflammation of the mucous membrane of the intestines, totally independent of the operation of cold, or the usual causes of such affections. It has been too much the custom to refer merely chronic and fixed local inflammations to the agency of constitutional causes. The example before us proves that even the most transitory may have this origin.

Scrofulous irritation may affect either the lining membrane or the parenchyma of the lung, giving rise in the one case to scrofulous bronchitis, in the other to scrofulous pneumonia, two affections which may exist separately or combined, and either of which may prove fatal, with or without the development of tubercles in the lungs. Tubercles have, as I have elsewhere proved, too exclusively engrossed the attention of those who have investigated the pathology of phthisis; they are a very frequent product of the scrofulous diathesis, but the scrofulous bronchitis and scrofulous pneumonia are still more frequent and more important, and do not, as is falsely supposed, depend upon the presence of tubercles in the lungs. The pneumonia, the bronchitis, and the tubercles, where they occur together, are all produced by one common cause,—scrofula. Of this more hereafter.—*Ibid.*

16. *Hæmorrhage from the Gums.*—The following interesting case of this accident is related by Mr. FULLER, in the *India Journal of Medical Science*, for August, 1834.

May 13.—An European child, of fair complexion, six months old, had been attended by me, for fever, several days. I had proposed lancing the gums in the beginning—but the parents being unwilling to allow it, I deferred it. The child not going on satisfactorily, I again urged the propriety of lancing the gums. They were lanced in the usual way—and bled freely at the time—the child then fell asleep. Two hours afterwards, half-past 5 p. m., I was sent for, as the gums had continued to bleed, whilst the child slept. I found the little fellow very pale and exhausted—his ears were become perfectly white and transparent—the scalp, before red and hot, now cool and pale. I applied spirits of turpentine, by means of lint, to the gums, and gave the child *Tr. Opii*. 10 or 12 *drops*. (not minims.) and the same quantity of turpentine—the child had vomited about an oz. of blood, besides what ran out of his mouth.

8 p. m.—Child asleep, and no more bleeding.

May 14, 7 a. m.—Child slept till 4 o'clock this morning—no more hæmorrhage.

7 p. m.—No bleeding—passed several stools containing clots of blood.

May 15.—A slight hæmorrhage about 9 a. m., in consequence of the nurse allowing the child to put a wooden toy into its mouth—this stopped of itself.

May 16.—Sent for very early this morning, as the bleeding had returned with violence; this was caused by the edges of a silver tea-spoon, in giving the child some castor oil. The bleeding stopped of itself—but not before the child had lost a great deal of blood—gave it a few drops of laudanum.

1 p. m.—Bleeding had returned with increased violence—but had partly stopped when I arrived. I waited two hours—at the end of which time, it broke out afresh. I remarked that the child constantly sucked the gums. All the usual styptics having proved useless, and the difficulty of properly applying them, in so young a child, rendered them still likely to continue, I applied the actual cautery to the spot in the upper gum, from which alone the blood issued—the bleeding stopped instantly, and never returned. During the operation, the restlessness of the poor child, together with the force necessary to keep the mouth open,

made the lower gum bleed, for the first time since the day on which they were lanced—this stopped at the time, spontaneously—child much reduced.

May 17.—The father of the child wrote to say that I need not call till the evening, as the bleeding had not returned; but at half-past 2 p. m. I was sent for in a great hurry—the lower gum having burst out bleeding very profusely. I applied the hot iron—child very restless, and, in consequence, the application was not perfect, and blood continuing to ooze;—I repeated the application two hours afterwards, and the result was complete success—the child threw up about half an ounce of blood, and passed blood in some of its stools afterwards. A few days after the last application of the hot iron, a lower tooth made its appearance in the very spot from which the bleeding came. No fever, of any consequence, remained after the day the gums were lanced on. I do not think that the bleeding would have returned, had it not been provoked, in the first instance, by the accidental circumstance above mentioned, as 40 hours had elapsed since the first bleeding had been stopped. The child is of a scrofulous habit, and had been taking a small quantity of calomel for his fever—perhaps these may, in some measure account, coupled with the unhealthy tendency of blood to the brain, for this unusual bleeding from the simple division of the gums.

MATERIA MEDICA AND PHARMACY.

17. *Solidification of Turpentine by Magnesia*.—From M. Mialhe's experiments on copaiba, and M. Faure's on turpentine, it appears that these oleo-resinous juices are most readily solidified by magnesia. The quantity of the latter, however, that is necessary to form a solid mass varies in using different species of turpentine. In this respect there is a marked difference between the common turpentine, such as those of Bordeaux, and the fine sorts, such as the Venetian, which require a much greater quantity than the former. M. Mouchon found that an ounce of Briançon turpentine mixed with an ounce of hydrocarbonate of magnesia, formed a pilular mass, which was a long time before it hardened even a little, and the pills made from which soon loose their globular form.

An ounce of Bordeaux turpentine, with six drachms one scruple of hydrocarbonated magnesia, makes pills which harden very slowly, but eventually become pulverulent.

An ounce of Bordeaux turpentine and eight grains of oxide of magnesium, procured by intense calcination, gives a very soft mass, which does not take on a pilular consistence before thirty-six hours. After a few days it resists, in a slight degree, the impress of the fingers, but is truly fragile for a long time. By augmenting the quantity of magnesia, the hardening of the mass takes place more promptly; but to have pills consistent in a few minutes, and to have a magistral preparation, the proportion of magnesia must be increased to a 50th. Pills thus made are pulverulent in forty-eight hours, are transparent, and have a vitreous fracture.

These facts and experiments of M. Faure, repeated by M. M. Guibourt, Lecanu, and Blandeau, lead to the following practical conclusions:—

1. *Carbonated magnesia* should be preferred and employed in equal proportion to solidify Briançon turpentine.

2. When the turpentine of the *Pinus abies* is to be rendered solid, *calcined magnesia* is preferable.

3. The proportions of both should be smaller according to the length of time since the turpentine was collected.

4. In acting on the turpentine of the *Pinus abies*, reduced by time to a medium consistence, the solidification is effected in thirty-six hours, by means of a fraction of oxide of magnesium equivalent to about 1-72 of the mass.—*Journal de Chimie Méd.* July, 1831.

18. *Dupuytren's Pomade to prevent the Hair from falling out*.—Macerate a drachm of powdered cantharides in an ounce of spirits of wine, and filter. Take ten parts of this tincture and rub it in a mortar with ninety parts of cold lard.

19. *HORNE's new preparation of the Acetum Opii Sedativum.*—Take three times the quantity of the best opium, reduced to fine powder, that is ordered by the London Pharmacopœia for two pints of tincture; add to the opium two pints of dilute acetic acid; after they have digested a few hours, add to them six or eight pints of rectified spirits of wine; macerate about seven days, then carefully filter, in order to separate the insoluble parts of the opium. Introduce the liquor into a retort, accurately closed, and distil off the spirit. The product in the retort, after the spirit has all passed over, is the required *acetum opii sedativum*.

If the distillation be carefully conducted, the result will always prove of one uniform strength — 1 ℥ equivalent to iij℥. tincturæ opii, and free from spirit, and will keep unchangeable for an indefinite time. The *acetum opii sedativum* will be found the same, or very similar, to Mr. Battley's liq. opii sedativus (except in the strength, which latter falls short, according to the opinion of our most able experimentalists, as nearly j. to ij. instead of j. to iij.) a preparation too well known to require describing, except in regard to its mode of formation, which the preparer, in spite of his ranking as a scientific druggist, has hitherto kept a profound secret: should this slight effort of mine be the means of eliciting that secret, my object, in part, will be attained.

The rationale of the process may be briefly stated as follows. The acetic acid unites with the morphia of the opium, and forms an acetate of morphia, which is held in solution by the diluted acid; the remaining ingredients of the opium, acted on by the rectified spirits of wine, are extracted, and detained by the acid, after the spirit has been distilled over. I shall be happy to give a full description, if required by any of your numerous correspondents, should the subject be considered of sufficient interest to be allowed to excite inquiry in your useful and scientific journal.—*London Medical Gazette*, Jan. 17, 1835.

THERAPEUTICS.

20. *Diabetes Mellitus cured by Kreosote.*—Professor BERNDT, having been unsuccessful in his treatment of seven cases of Diabetes mellitus, by the various methods recommended by authors, was induced to try in the eighth, the kreosote. The following are the particulars of this case, as given in *Kleinert's Repertorium* for 1835.

The patient was a man, fifty years of age, ill for the last sixteen months; he passed daily seven Berlin quarts of turbid urine, sweet to the taste and smell, and containing a good deal of sugar; the patient was feeble, his appetite very great, and he was tormented by constant thirst; his sleep was disturbed by the frequent necessity of making water, but he had no hectic fever. The treatment was commenced by administering a vomit, which brought away some acid-smelling matters. Rollo's plan of treatment was then employed for some days, and ipecacuanha was given in small doses; this produced no good effect, and instead of the ipecacuanha, eight drops of kreosote were administered in the form of pill every day. The quantity of urine now excreted diminished to three, two and a half, and two quarts per day. It appeared at first to contain a large proportion of alkalies, particularly ammonia, and remained troubled. The dose of the kreosote was gradually increased, and after three weeks Rollo's regimen was abandoned on account of the disgust it excited in the patient. At this time the urine gave the odour of horse's urine, contained less sugar, and exhibited the first traces of urea, though it continued still turbid. Under the common diet and increased doses of kreosote, the urine diminished to two or one quart and a half; it was occasionally clear, gave an acid reaction; the quantity of sugar became daily less, and that of urea greater. After some time the patient's state was evidently improved. He now took twenty-four drops a day, his appetite was good, and his thirst much less, and the urine flowed at from one and a quarter to one quart and three quarters per day. In a few days more it assumed a natural colour, contained all the ingredients of normal urine, and ceased to give any trace of sugar.

21. *Principles of Treatment of Neuralgic Affections.* By WM. STOKES, M. D. (Extracted from his lectures on the Theory and Practice of Medicine.)—In en-

tering on the principles which should regulate the treatment of neuralgic diseases, I have to remark, that they are but slightly modified by their situation; in fact, it may be asserted generally, that the same principles of treatment apply, no matter where the disease may be situated. But are we to consider this subject as totally apart and having no connexion with the occurrence of inflammatory or organic disease? If we did so, we should get but a limited and erroneous view of the matter. I have told you before, that, in long-continued cases of functional disease, organic alterations were very apt to take place. The reverse of this proposition also is true, that organic affections may precede an attack of nervous symptoms; in other words, you may have cases presenting, at first, phenomena amenable to antiphlogistic treatment, and yet a period will arrive when new symptoms occur, and this mode of treatment will be no longer applicable. This is of importance in the practice of medicine, for if, in such a case, you persevere in the use of depleting measures, you will effect nothing towards the removal of distressing symptoms, and may do your patient's constitution much injury. A common example of this is, where a person receives some local injury, as for instance, a blow on the cheek. This is followed by all the symptoms of inflammation, as pain, swelling, heat, redness, &c. Well, then, you have a case of local inflammation to deal with, and you must treat it as such. But a period may arrive when the heat, swelling, and other symptoms of an inflammatory affection subsiding, the pain alone continues. Here the pain may be purely nervous; and if you were to go on leeching, purging, and depleting your patient, you would not only lose your time, but, in all probability, do mischief. Here, as in many other cases, we have local inflammation followed by an active neurosis. You remember, when speaking of hepatitis, I remarked that many persons were subject to pains in the region of the liver, *independent of any known organic disease*. I also drew your attention to the fact, that after the symptoms of a hepatitis are removed, the pain sometimes continues, having no longer any connexion with organic disease, and taking on the character of a neurosis. You will see of what importance this is when you reflect on the mischief done to such patients by persevering in bleeding, blistering, and the use of mercury, when the disease is amenable, not to this, but to a plan of treatment calculated to remove the neuralgia of the liver. It is the same thing with respect to the mammæ, injuries of which are frequently followed by severe neuralgic affections. In the case of the heart, it sometimes happens that, after an attack of pericarditis, the patient will be subject to pain in that region, which may continue for years. Dr. Bright gives a very remarkable case of neuralgia which supervened on the disappearance of a cutaneous affection. All these facts tend to show, *that the mere pre-existence of local inflammation in any individual case does not prove that the pain is not neuralgic*, and hence it is plain, that in such a case it might be improper to persevere in the treatment used for local inflammation. This persisting in the taking of a neuralgic pain for the continuance of inflammatory or organic disease is a common error, and often productive of the most frightful consequences. Without a careful consideration of such cases, you will fall constantly into error. Never forget that although neuralgia may be the first and sole affection, yet, that it is often combined with organic disease, which it may precede, accompany, or follow.—*London Med. & Surg. Journ.* 27 Sept. 1834.

22. *On Hemicrania.* By Wm. STOKES, M. D.—One of the most common forms of neuralgia, which you will meet with in private practice, is what has been termed *Hemicrania*, the chief symptom of which is violent pain in one side of the head and face. The symptoms are exceedingly violent; there is a high degree of exaltation in the sensibility of the surface of the face; the eye is exquisitely sensible to light, and the ear to sound. The patient is very much prostrated, and his spirits depressed, and the slightest cause is sufficient to bring on an attack of pain. In some cases the pain is constant, in some remittent, in others intermittent. The sensibility is deranged only at one side of the head and face, and the pain seldom extends beyond the median line. As far as we know of this affection, it seems to depend on some morbid state, either of the sentient extremities of the fifth nerve, or of that portion of the brain which receives its impressions.

In cases of hemicrania we may have symptoms existing elsewhere, and this leads us to the consideration of the exciting causes. These will be often found

to depend on deranged digestion. Here the irritation is reflected through the sympathetic system to the brain and sentient branches of the fifth pair, for there exists between these two nerves a very close and remarkable sympathy. Thus we frequently observe, that *tic douloureux*, as well as *hemicrania*, are the result of some injury or irritation of those parts to which the ganglionic nerves are distributed. In treating a case of *hemicrania*, then, you must inquire whether there be any visceral irritation present, and remove it as soon as possible. You must also carefully inspect the teeth and gums, for a carious tooth or a diseased gum, will prove the exciting cause of an attack. I have seen many cases of *hemicrania* where the patient was subjected to a variety of treatment without success, and where complete relief was obtained by the simple process of extracting a carious tooth. It is a very curious fact, that in those instances the pain was referred, not to the diseased tooth, but to the whole surface of the face. Cases of this kind are given, in which the pain lasted for many years, resisting every form of treatment, and were afterwards cured by the extraction of a decayed tooth. There is one circumstance in these cases which is very apt to mislead, and this is, that the pain is often not referred to the tooth; and relief, to a certain extent, is obtained by the use of narcotics and carbonate of iron. This, however, should not lead you to think that the disease has no connexion with the state of the tooth and gum; and this fact is illustrative of a most important principle, viz. *that temporary relief by a purely anti-neuralgic treatment does not prove that no organic origin exists*. How often has hysteria depended on local disease, and the practitioner been misled by the temporary relief afforded by antispasmodics. I have seen the most melancholy examples of this, and have more than once been misled myself.

With respect to the remedies most generally employed in the treatment of *hemicrania*, they are chiefly preparations of arsenic, iron, sulphate of quinine, and opium. Of these, the recently precipitated carbonate of iron appears to be the best, indeed, its success is frequently heroic. In proof of this you will find several very interesting cases detailed by Mr. Hutchinson in his excellent work. The best way of giving it is to combine it with an aromatic and a laxative; a small quantity of the pulv. *cinnamoni comp.* a few grains of rhubarb, and fifteen grains or a scruple of the carbonate of iron, will form a powder which may be given two or three times a day with advantage. It has been asserted, that the carbonate of iron is suited for fixed, and not for intermittent cases of neuralgia; I have found the contrary to be the fact. I had lately a lady under my care, who, in attempting to remove some furniture, received an injury by striking her cheek against a chest. She was treated for six weeks with purgatives, local bleeding, and mercury; the swelling, heat, and redness of the part went off, but the pain remained, being regularly intermittent, and occasionally very severe. This lady was perfectly cured by a tonic regimen, and the carbonate of iron, in scruple doses, three times a day. The sulphate of quinine has been proposed as being peculiarly adopted for intermittent cases; it will sometimes succeed, but I have known several cases where it completely failed. I grant that the character of intermission would naturally induce a practitioner to have recourse to it, but I have known so many instances of its failure, in purely intermittent neuralgia, that I give a decided preference to the carbonate of iron; I recollect the case of a gentleman who for six weeks had daily attacks of terrible *hemicrania*. When the attack came on, he was obliged to remain perfectly motionless, the tears streamed from the eye of the affected side, the ear was exquisitely sensible to the slightest sounds, and he remained in a state of intolerable suffering for some hours. For the space of six weeks he took quinine in enormous doses without any improvement, and was ultimately obliged to give it up as useless. I have seen the same result in a great many cases, and as far as my experience goes, I would not place much reliance on quinine, even where the attack was of a purely intermittent character. I have seen some cases indeed, where it has done good, and you may try it; but if after three or four full doses, you find there is no improvement, you may be almost sure that it will prove useless. When it succeeds, one of the first effects produced by it is to put back the paroxysm for an hour or two, just as occurs when it is successfully given in a case of ague. But I feel certain, that if it is likely to succeed, its beneficial effects will be seen in the course of a few days, and to persist for weeks in using it is not only un-

necessary but improper. In the very remarkable case to which I have just alluded, the gentleman after having tried quinine without the slightest improvement for six weeks, was suddenly and completely relieved by a full dose of opium. At night, on retiring to rest, he took a strong opiate, awoke in the morning refreshed and free from pain, and has continued from that time to the present (a period of ten years) without any symptom of hemicrania. Dr. Mackintosh says that the sedative solution of opium, or the acetate of morphia, are the best remedies for this disease he is acquainted with, and that he has seen many cases where they succeeded, after every thing else had failed. You may also employ in such cases the external use of narcotics with great advantage, of which one of the best is the extract of belladonna. If you prescribe a liniment composed of a drachm of the extract of belladonna, with an ounce of the compound camphor liniment, you will have a powerful remedy, and one, which when applied to the surface of the affected parts, will often produce great relief. I have sometimes used the acetate of morphia in the endermic mode, by putting on a small blister, and leaving it on until vesication was produced, when the raised cuticle was cut away with a pair of fine scissors, and the surface dressed with an ointment composed of a drachm of lard, and from a grain to a grain and a half of the acetate of morphia. I remember two cases of intermittent hemicrania which yielded to this treatment. You will also frequently derive benefit from the internal use of stramonium and belladonna. There are many other remedies used for this purpose, but I shall not detain you any longer on this part of the subject; it will be sufficient to remark that the carbonate of iron, sulphate of quinine, and opium, externally and internally, are the remedies on which the most reliance is to be placed.—*Ibid.*

23. *On Tic Doloureux.* By WM. STOKES, M. D.—This is one of the most melancholy and harassing affections to which the human frame is liable; in some instances the poor sufferer, after having lived for years in a state of exquisite misery, is at last worn out by the intensity and persistence of his agonies. Such was the fate of the late celebrated but unfortunate Dr. Pemberton. A great deal of light has been thrown on the nature of this affection by the researches of Sir Charles Bell. He seems to have succeeded in establishing several points connected with the nature and seat of this affection, one of the most important of which is that the seat of this disease is in the sentient branches of the fifth pair of nerves, and not, as it has been supposed, in the portio dura. He has shown pretty clearly that the portio dura is the nerve which regulates the muscular motions of the face, producing all those modifications of features which we call expression, and also peculiar motions or changes connected with certain states of respiration, in a word, that it is the expressive and respiratory nerve of the face. It is, according to him, never the seat of tic doloureux, and the practice of dividing it for this complaint, is as unscientific as unsuccessful. The division of the portio dura in such cases, not only fails in giving relief, but also entails disgrace on the practitioner, and disfigurement and misery on the patient. *Its effect is paralysis of the muscles of one side of the face, and great distortion*, without the slightest relief. Yet it is a melancholy fact that such operations have been performed. Sir C. Bell's researches, however, have put an end to this malpractice, for he has shown that the fifth nerve is that which supplies the face with sensation, and that it is in its branches the disease is situated. We are then, I think, to look upon this disease as a neurosis situated in the expansions of the facial branches of the fifth pair of nerves. Sir C. Bell relates a very remarkable case, in which the patient had suffered from a series of dreadful attacks, the pain coming on in violent paroxysms. From the accounts given by this patient, and from personal observation, he says, that one could trace with anatomical precision the course and direction of the branches of the fifth nerve, for on the recurrence of an attack of pain, he applied his fingers to his face, and made pressure on the foramina where the different branches of the fifth nerve issue. Having done this, he would press the nerves with all his force, and remain in a fixed posture while the paroxysm continued.

Sir Charles Bell's idea with respect to the cause of this disease, is, that it generally depends on some visceral irritation reflected through the sentient branches of the fifth pair of nerves.

I have told you that this disease is one of the most melancholy affections to which man is subject, it is also one of the most obstinate. A vast number of remedies have been employed or proposed for its treatment, and this affords an illustration of the fact, that the more incurable a disease is, the more extensive is the list of its remedies. A few only are deserving of attention, and these I have already mentioned when speaking of hemicrania, namely, the preparations of arsenic, iron, quinine, and opium. Where these fail after a full trial, Dr. Bright looks upon the case as hopeless. Narcotics in every form and of every description have been employed both externally and internally, but to all these the same remark applies; many of these remedies will give temporary relief, and the physician will flatter himself on the prospect of a favourable termination, but in a short time he is annoyed at finding that the disease has returned and left the patient as bad as ever. Many a time have I seen a poor sufferer excited by hope on receiving temporary alleviation from the use of arsenic or iron, and sinking into despair, when he found that his torturing malady returned, and that the remedies which on the first trial gave relief, on a second proved useless. The general principles which should guide you in your treatment are, first, to investigate carefully whether any visceral irritation exists, and remove it as far as possible, taking care at the same time to improve the general state of the patient's health, and the next thing is to allay the sensibility of the nerves of the part and avoid all exciting causes. In certain cases this disease appears to be connected with an affection of the brain, and this seems to be an explanation of the fact before mentioned, that in some cases, where all specific treatment had completely failed, relief has been obtained by shaving the head and applying ice to the scalp during the paroxysms. I have already mentioned to you a case in which this mode of treatment proved eminently successful. This is a curious fact, and one which being of practical importance, you should hold in memory.—*Ibid.*

24. *On a form of disease resembling Tic Douloureux.* By WM. STOKES, M. D.—We have a form of disease consisting of violent paroxysms of pain, apparently nervous, and in which no doubt the branches of the fifth pair of nerves are engaged; it is generally found to depend on a local cause, being connected with some disease of the bones of the face or skull, and bears a close analogy to tic douloureux. I have now witnessed several instances of this disease; in some cases it is produced by a carious tooth, in others by disease of the maxillary bones, and I have observed it to occur in one case of abscess of the antrum. The same thing has been observed by Dr. Bright, who gives an extraction of one of the bicuspidis was followed by a gush of matter from the antrum and complete relief of the violent pain. I have also seen cases in which this affection appeared to be the result of disease of the lining membrane of the frontal sinus, of this also Dr. Bright gives an example. The case I witnessed was that of a lady, who got a dreadful attack, resembling hemicrania, in consequence of being exposed to cold shortly after leaving a warm climate. She suffered the most violent agonies for some time, until one day she had a discharge of purulent matter from the nostrils, which was almost immediately followed by relief. This has recurred at intervals since that period, the pain ceasing when the discharge comes on, and returning when the discharge goes away. The pain is most intense, and situated in the direction of the frontal sinus, and running down along the side of the face; it is constant, and without any intermissions, returns upon the occurrence of any cause which checks the discharge, and is sometimes so excessive as to render her quite frantic. Whenever an attack comes on, she applies a number of leeches over the frontal sinus, then warm fomentations, and this has the effect of bringing on the discharge and giving relief. In a conversation which I had with Mr. Crampton on this case, he stated to me that he had met with two similar ones, and that he had succeeded in accomplishing a perfect cure by inserting a large caustic issue over the top of the head. I accordingly advised my patient to have the same thing done. She has since that time left this country, but previous to her departure I certainly observed an improvement in her symptoms, and the principle of treatment appears to be perfectly rational.—*Ibid.*

25. *Pulmonary Hemorrhage Treated with Ergot.* By DR. DURANTE DE CASERTA.—A child, aged 12 years, of sanguine temperament, good constitution, but already

in the habit of drinking wine, was attacked with colic. His father, without the advice of a physician, gave him an emetic, and, during his efforts in vomiting, copious hæmoptysis took place. Dr. Durante was called to visit the patient, and found him in the following condition; face flushed; expectoration of floeculent blood when coughing; pulse high and febrile. The doctor ordered a copious venesection and iced drinks, acidulated with mineral acids, to arrest the hæmorrhage. These remedies were successful, but on the following day the hæmorrhage was renewed with much greater severity, and it returned at every attack of coughing; alternating with epistaxis. M. Durante then prescribed half a drachm of the powdered ergot, to be divided into six doses, one to be administered every two hours. After this medicine had been taken, the hæmorrhage stopped, and did not return, the pulse abated and in a short time there only remained the symptoms of the catarrhal affection. Another dose of ergot was administered to ensure the cure; then some purgative medicine, cooling drinks, and an opiate at night rendered the cure complete.

25. *Amenorrhœa*.—Dr. SCHÖNLEIN, late Professor of Medicine at Würzburg, is of opinion that an injection of aloes; (ten grains in a small quantity of warm water,) thrown up the rectum at the time when the menses ought to make their appearance, is more certain in its effects than any other emenagogue.

26. *Digitalis a specific for Delirium Tremens*.—Dr. CLESS, of Wurtemberg, states, that he has found digitalis purpurea to be specific in the treatment of delirium tremens. Of 13 cases of this disease, in which he administered the remedy, all but two recovered; these two had a relapse. The digitalis was given in strong infusion, in doses of a spoonful every two hours. After symptoms of narcotism have made their appearance, recovery ensues.—*Med. Correspond. Blatt and Gaz. des Hôpitaux*.

27. *Spirits of Turpentine in Enema, as a Cure for Sciatica*.—Dr. DUCROS, JR. of Marseilles, in an article in *La Lancette Française*, (Sept. 15, 1835,) lauds the efficacy of the spirits of turpentine, administered in enema for the cure of sciatica. He gives the turpentine in large doses, from one ounce to two ounces and a half, mixed with the yolk of an egg and vegetable mucilage. He does not state at what intervals the enema is to be repeated; but several seem to have been administered in some cases before relief was obtained.

28. *Poisoning by Arsenic cured by the Hydrated Tritoxide of Iron*.—A remarkable case of this description is recorded in the *Gaz. Med. de Paris* (22 Aug. 1835,) by M. MONOD. The subject of it was a hair-dresser, 35 years of age, who, in a paroxysm of delirium tremens, swallowed a drachm and a half of white oxide of arsenic. Half an hour afterwards the antidote was given to him, suspended in water, and he drank in twelve hours all the tritoxide produced by the decomposition of five ounces five drachms of the trito-sulphate of iron. He had no violent colic, and twenty-four hours afterwards experienced scarcely any uneasiness even.

29. *Leucorrhœa Cured by Colchicum*.—Dr. RITTON recommends the following pills for the cure of leucorrhœa:—℞. Pulv. colchii. autumn. gr. iij.; sapon. med. q. s. fit pilul. Three of these are to be taken daily, and the dose increased to five or six. The mean term of cure is ten days. During the treatment the patient must abstain from fermented and alcoholic drinks.—*Jour. Conn. Med. Chirurg.* Aug. 1835, from *Gazzetta clettica de Vérone*, April, 1835.

30. *Soda, a remedy for Tooth-ache*.—J. S. GASKOIN, Esq. in a communication to the *London Med. Gaz.* (7 Feb. 1835,) states that tooth-ache may be effectually relieved for many hours by carefully filling the cavity of the decayed tooth with the powdered carbonate of soda. It does not seem to lose its efficacy by frequency of application.

31. *Pommade for the Cure of Itch*.—Dr. EMERY, in an article on the itch, in the *Bulletin Général de Thérapeutique* for May last, highly extols the efficacy of

the following pommade for the cure of that disease. Take of brown soap one ounce; table salt half an ounce; sulphur half an ounce; alcohol one drachm; vinegar two drachms; chloride of lime half a drachm. One fourth to be used in friction, morning and evening, to the hands and feet. He states he has cured by it in the hospital St. Louis more than twelve hundred patients; many of them in four or five days, others in ten, twelve, or fourteen days; the mean period of treatment not exceeding eight days. It has the advantage of never causing any accidents, or eruptive diseases; of not soiling the clothes; of not making the atmosphere of the wards unpleasant; of curing the disease in a short time, and being a very cheap remedy.

32. *Pommade for the cure of enlarged tonsils.*—Dr. CERCHIARI, in a communication in the *Bull. delle Scienze Med. de Bologna*, May, 1835, extols the efficacy of the following ointment, in the cure of enlarged tonsils, caused by repeated attacks of inflammation:—℞. Iodm. pur. ʒj. Ung. Ros. ʒj. m. To be applied to the tonsils morning and evening, by means of a small brush. By the end of two months these glands will, he asserts, under this application, return to their normal size. It is necessary that the inflammation should be entirely subdued before recourse is had to this ointment.—*Journ. de Conn. Med. Prac.*, Aug. 1835.

33. *Hemoptisis cured by Kreosote.*—Dr. SENTINE has reported in the *Gazzetta di Therapeutica de Verone*, for March, 1834, a case of profuse hemoptisis, recurring at short intervals, and occurring in a man forty years of age, in which a persevering antiphlogistic treatment, general and local bleeding, cutaneous irritation, and astringents, had been employed without success. Dr. S. administered the following potion:—℞. Muc. Gum. Arab. ʒij. Kreosote gutt. Syr. Althææ: ʒj. A spoonful of this mixture was given every three hours, and afterwards every two hours. After the first two doses, the orgasm and pain of the chest diminished, the respiration became freer. The quantity of kreosote employed was one drachm.

OPHTHALMOLOGY.

34. *Amaurosis from Metallic Colic.* The *Archives Générales* for May, 1834, contains a memoir on Amaurosis from lead. The author M. DUPLAY, endeavours to establish the differences and analogies between amaurosis from lead, and the amaurosis which is found in some instances to accompany a nervous colic, the symptoms of which strongly resemble the lead colic; though they clearly do not depend upon the same cause. To this end M. Duplay first gives cases from former Nos. of the Journal in which he writes, from Andral's Clinique, and from his own experience, illustrative of amaurosis from lead colic; and others quoted from Felix Plater, Henry Smetius, Hildanus, Lucas Stoerck, &c., descriptive of the attack of amaurosis in nervous colic; a case, however, which he observes is sufficiently rare. Reasoning from these he comes to the following conclusions:—

1. The amaurosis which succeeds metallic colic, or nervous colics resembling it, is peculiar in the sudden and almost instantaneous manner of its attack; the patients losing all vision, and becoming incapable of distinguishing night from day in a few hours.

2. It commonly shows itself after several attacks of colic, but may occur in the first, just as do other derangements of innervation in persons having those seizures.

3. In the majority of those seized with amaurosis, this symptom is preceded by other nervous disorders, as pains of the arms, cramps of legs and belly, &c.; as also by palsy of the fingers, and more commonly still by epileptiform attacks and delirium. At other times it appears alone, and is only succeeded after some time by nervous symptoms.

4. When the patient is in a complete state of blindness, the pupil, on examination, is found to be considerably dilated, and utterly immoveable. M. Duplay says he has not recognised the character of metallic amaurosis mentioned by

Heller, namely, a turgescence of the vessels of the conjunctives and sclerotica, with a sense of fullness of the eye-ball.

5. The amaurosis from lead acquires its greatest intensity in a few hours. In other varieties of amaurosis, this sudden obliteration of sight is rare, the falling off being more gradual.

6. The disease in question is for the most part of short duration, varying from a few hours to some months. The average term seems to be five or six days. In one of the cases it lasted two months. In another, an amaurosis in the nervous colic, related by Plater, became permanent.

7. The number of relapses of colic does not appear to influence the extent of the amaurosis; it often quickly disappears in persons that have been repeatedly attacked with lead colic, and, on the other hand, is often obstinate in the first attack.

8. In most of the cases the amaurosis has disappeared under the treatment of metallic colic; as the symptoms of the latter diminished, the sight began to return.

The amaurosis from nervous colic is best treated with the purgatives, according to M. Duplay.

35. *Method of forming an artificial Pupil without injury to the crystalline Lens or its Capsule.*—The *Medical Quarterly Review* for Jan. 1835, contains an interesting paper by Mr. Tyrrell, Surgeon to the London Ophthalmic Infirmary, on this subject. "There has not been any plan devised," according to Mr. T., "by which the surgeon can form an artificial pupil, without at the same time injuring the crystalline body; so that, if it were previously sound, it would be rendered opaque by an operation for forming an artificial pupil, and consequently its removal would be necessary, to make the artificial pupil serviceable.

"The loss of this highly important structure is not the only evil resulting from injury to it, for such injury often produces consequences fatal to the formation of the new pupil itself, and is sometimes destructive to vision altogether.

"Thus the opaque lens, or some fragments of it, by pressing on the iris, often create and maintain an inflammatory action in the iris, under which the artificial opening closes; or the inflammation thus excited extends to the deeper seated tissues, (as the choroid and retina,) and produces such changes as destroy their functions, and occasion organic amaurosis."

The following are the cases to which this operation is applicable, and Mr. Tyrrell's mode of performing it:

"An aperture penetrating the cornea, whether created by wound or by ulceration, immediately permits the escape of the aqueous fluid, and is usually followed by a prolapse of the iris; and if the aperture be large, so much of the iris is sometimes protruded that the pupil becomes exceedingly diminished or destroyed; and in the reparation of the mischief, the iris becomes adherent to the cornea, and embedded in the cicatrix, constituting *synchia anterior*. In the cases in which the pupil is nearly destroyed the remaining part is often useless, in consequence of the portion of the cornea which covers it becoming opaque in the process, by which the injury to the cornea is repaired.

"When the opacity of the cornea is irremediable, and the remaining part of the pupil is so small that the influence of belladonna cannot increase it, an operation is as necessary to restore vision, as in those cases in which the pupil has been entirely destroyed from a similar cause.

"When under these circumstances, one-third or more of the cornea retains its transparency and natural character, and the subjacent portion of the iris is of healthy aspect, the patient will probably have a distinct perception of light, and a perfect result may then be anticipated from operation; but when less than one-fourth of the cornea is free from disease, a less favourable termination to operation may be expected: we may hope to restore useful, but not perfect vision.

"When the iris is discoloured or dull, it has been inflamed, and it may be adherent to the anterior capsule of the lens, and the capsule itself be opaque. The evidence of previous inflammation of the iris, therefore, renders the prognosis of the case, as regards the result of an operation, very doubtful; but it should not deter the surgeon from its performance, for I have restored good or useful vision when I have had little prospect of success.

"If the patient can distinguish light from darkness, I always consider the ope-

ration warrantable, as affording a chance of benefit, even when the features of the case are otherwise most unfavourable.

"The operation is then applicable to all cases in which the pupil has been entirely destroyed, or so nearly so as to be useless, in consequence of prolapse of the iris, provided that a portion of the cornea remains clear, and the patient has a perception of light.

"It sometimes happens that the natural pupil becomes obscured, and rendered almost useless, by the formation of a dense and large central opacity of the cornea, as the result of cicatrization of an ulcer, or from the effect of an escharotic, and the opacity is permanent. In such a case vision may be improved or made good, by altering the position of the original pupil, which can be readily effected by the operation I am about to describe.

"The instruments required in the performance of the operation are, first, a knife or needle, to make an aperture in the cornea of sufficient size to admit of the introduction of a hook. As it is desirable that the opening in the cornea should not be much larger than is sufficient to admit the hook, I prefer a needle of a diameter rather larger than the hook to a knife.

"Secondly, a hook, the extremity of the curved part of which must be perfectly smooth.

"In forming an artificial pupil on the nasal side, I have found it necessary to have the stem of the instrument bent nearly at a right angle, to enable me to avoid the nose.

"Thirdly, a fine pair of scissors, to cut off a portion of the iris to be brought out of the opening in the cornea by the hook.

"Fourthly, a pair of fine dissecting forceps.

"The operator has not usually much choice of position for making the artificial pupil, as it must of course be formed under the transparent part of the cornea, which is frequently very limited; but he should at all times, as far as circumstances will admit, form it towards the inferior part of the cornea, vision downwards being of much greater service than upwards.

"During the operation I prefer having the patient recumbent, with the head slightly raised, and with the light falling rather obliquely on the face. Then seating myself at the head of the patient, so that his head rests against the lower part of my sternum, I can command the superior eyelid of either eye, and hardly require the aid of an assistant.

"In elevating and fixing the superior palpebra, the forefinger should be placed near the centre of its free margin, so that the extremity of the finger touches the surface of the globe, and the cilia are pressed outwards: by very moderate force the lid can then be elevated, but, in effecting this, the forefinger must not only press against the eyebrow or superciliary ridge, but also slightly against the surface of the globe, or the eyelid will probably avert. At the same time the point of the middle finger should be placed on the globe, near the inner canthus.

"The left hand should be used to the right eye, and the right hand to the left eye, when the surgeon occupies the position described; but if not ambidexter, he must change his position, and employ an assistant when operating upon the left eye.

"By well-regulated pressure with the points of the two fingers, the surgeon can in a great measure command the motions of the globe, in most instances, and thereby facilitate the operation.

"The superior lid being elevated and fixed, and the globe under command, the needle is to be passed through the cornea, close to its junction with the sclerotic, at the point previously determined upon; it should freely enter the anterior chamber.

"On withdrawing the instrument, a part or the whole of the aqueous fluid usually escapes; and, if the iris has been previously free and unaffected, (as in the simple case of dense central opacity of the cornea,) a small part of it may prolapse; and I always endeavour, by firm pressure with the fingers placed on the globe, to effect such a protrusion.

"A prolapse of the iris, however trifling, immediately occasions an alteration in the figure and in the position of the pupil; and thus, the puncture of the cornea being followed by a spontaneous protrusion of the iris, sometimes affects all that

is desired in such a case, by bringing the pupil under a transparent part of the cornea.

"If under these circumstances the prolapse of the iris be not sufficient, the projecting part should be seized by a fine pair of forceps, and drawn from the wound, until sufficient has been pulled out to effect the desired change in the position of the pupil.

"Supposing that the iris does not prolapse when the anterior chamber has been opened, in the case of dense central opacity, or when the operation is resorted to, in consequence of the original pupil being nearly destroyed, the further steps of the operator will be similar.

"The patient being allowed a few moments' rest after the use of the needle, the upper eyelid should be again elevated as before, and the hook be carefully passed through the opening effected by the needle into the anterior chamber, and carried on, until the point enters the pupil. In passing the hook, the curved part should be kept towards the cornea, until the extremity has entered the pupil, when the instrument should be rotated, so that the hook may receive the free margin of the iris.

"The iris being caught by the hook, the instrument should be steadily withdrawn, and when the curved part arrives at the aperture in the cornea, if it is arrested, the instrument must be again rotated, to turn the curved part towards the cornea, otherwise there may be some difficulty in getting it out, in consequence of the extreme part of the hook catching against the inferior edge of the aperture. The hook brings out a portion of the iris, and produces an immediate alteration in the position of the natural pupil, or an enlargement of that previously diminished by disease, and by gradually withdrawing the instrument from the aperture, a further portion of the iris may be generally pulled out, until the desired effect on the pupil is produced. The protruding portion of the membrane may then be removed close to the aperture in the cornea by the scissors. If the hook tears through the part of the iris which is brought out of the anterior chamber by it, before a sufficient portion has been drawn out, the protruded part should be seized with the forceps, and a further portion withdrawn and cut off.

"Supposing that the original pupil has been entirely destroyed, it is necessary to make a small aperture in the iris as well as in the cornea, for the passage of the hook; and this is the only respect in which the operation in such a case would differ from that described. The opening in the iris should be made by the same instrument by which the cornea is penetrated: and, if a needle be employed, the opening in the iris can be effected without increasing the size of that in the cornea. After therefore the needle has entered the anterior chamber, the point should be very carefully directed to the part at which the iris and cornea are adherent, and passed through the former close at its junction with the latter; a very small opening suffices. In puncturing the iris the operator must direct the point of the needle to the cornea, for there is usually in these cases so little space of posterior chamber, that the capsule of the lens may be easily injured if the point of the needle be passed at all backwards. The subsequent steps of the operation in such a case should be as I have already described."

37. *Spontaneous Cure of a Traumatic Cataract.*—In the month of January, 1834, Dr. PAOLO GERSON was called in to visit Francesco Brussi, a child five years of age, who had received a stroke from a sharp-pointed knife in the right eye. Seen two hours after the accident. The little patient presented the following symptoms: a portion of the aqueous humour had escaped; the iris was uninjured, and did not prolapse beyond the small wound in the lower part of the cornea; however, the crystalline lens appeared somewhat troubled, and the surgeon was led to conclude that it was injured, particularly as the patient saw very little with the eye, although the pupil and iris were in a normal state. The child did not complain of any pain in the orbit, and though no symptom of inflammation declared itself, the fear of secondary cataract induced the author to apply six leeches round the temple, and give a gentle purgative medicine. At the end of three days no unfavourable symptom appearing, the case was left to nature. At this period the formation of a cataract was very visible. There was a cloudy spot in the eye, and the edges of the wound showed a tendency to unite with the subjacent portion of the iris; an astringent collyria was ordered, to combat the

opaque spot, which produced an excellent effect, and after three days the child was permitted to amuse himself as usual. The parents were recommended not to employ surgical assistance, for the removal of the cataract, in too great a hurry. Four months had elapsed, when M. Gerson was again called in to see the patient, whose parents entreated him to undertake an operation. On examining the eye he perceived that absorption of the cataract had already commenced; there was a small perforation in the centre of the cloudy body. Extract of belladonna was now rubbed over the eyebrow, and the dilatation of the pupil permitted this fact to be established beyond any doubt. As the pupil gradually dilated, the absorption was seen to proceed, and was ultimately completed.—*The Lancet* from *Il Filait. Sebezio*.

38. *Means of removing small Fragments of Iron imbedded in the Cornea.*—M. KRIMER, in an article in *Hufeland's Journal*, for September, 1834, speaks of the difficulties often experienced in removing the small fragments of iron which are often imbedded in the cornea, and states that he has long employed the following means with success. He mixes twenty drops of muriatic acid with two ounces of rose water and a drachm of quince mucilage, and bathes the eye with this mixture, the muriatic acid of which dissolves the fragments of iron: this effected he washes the eye with milk, and applies cold compresses to it, to prevent conjunctivitis.

We have ourselves always been able, with great facility, to remove fragments of iron thus situated by the aid of a spear-pointed cataract needle; but, as others may be less fortunate, the above means may be resorted to, on the authority of Dr. Krimer.

39. *Ophthalmia cured by the Extraction of a Tooth.*—Dr. PLACIDO PORTAL has met with three cases of ophthalmia caused by carious teeth. The extraction of these teeth relieved the inflammation of the eyes as if by enchantment.—*Observat. Med. de Naples*, June, 1835.

40. *Spontaneous Dislocation of the Crystalline Lens.*—*The India Journal of Medical Science*, for February, 1835, contains the following interesting case of this rare accident, related by Mr. RALEIGH.

"Dec. 18th.—P. A.—A stout sailor, æt. about forty, was placed under my charge in order to undergo an operation for the removal of a cataract: his own history of his case was, that four or five months since he experienced an attack of redness and pain of this, the left eye, which after a few days duration left him; from that period his vision had become gradually more and more imperfect, and that during the last two months he had not been able to distinguish any object: he did not remember having received any blow, either on the eye or head. Observing the lens to be opaque, and the pupil contracted, I directed the application of belladonna; on the following morning, when proceeding to examine the condition of the cataract, I was surprised to find that the lens had come through the dilated pupil, and now occupied the anterior chamber, and, as its appearance indicated that its circumference was undergoing solution, I allowed it to remain; after about a fortnight, during which time the lens frequently passed from one chamber to the other, it was evident that very considerable decrease in its size had taken place, and as no ill effects were produced on the organ from its present unnatural position, as the man was beginning to distinguish objects, when the lens happened to be in a situation to admit of rays of light passing over its edge, and as the patient's health was robust, I recommended him to allow nature to effect a cure for herself, or at any rate to give her a fair opportunity of doing so, —and discharged him to rejoin his ship, which was on the point of sailing for England."

SURGERY.

41. *On Hydrocele of the neck with cases and observations.* By JAMES O'BEIRNE, M. D. "It is now nearly twenty years since Professor Mannoïr, of Geneva, described a disease to which he gave the name of hydrocele of the neck, and which,

although essentially different in its nature, and requiring a very different mode of treatment, bears such a resemblance to bronchocele or goitre, that it has been constantly confounded with the latter disease, and treated accordingly. The manuscript memoir in which he described this disease was read at the Royal Institute of France in 1815, and afterwards transferred to the Academy of Natural Sciences, by which body the late celebrated Baron Percy was selected to report upon its merits. It was not, however, until April, 1817, that the Baron presented his report, which proved highly unfavourable to Professor Maunoir's opinions and practice. In 1825 the latter published, for the first time, his memoir, with the whole of the unfavourable report made thereon, and a most able and satisfactory defence of his peculiar views on the subject.* But it would appear that, as too often happens, the authority of a great name, aided by bold and specious objections, proved more powerful than either the strongest facts or arguments; for, after considerable research, I have failed in finding even the slightest notice of this memoir in any subsequent French or English work. So little, indeed, does it appear to be known in both countries, that Delpech† and Lawrence‡ who, between them, have related three cases, which appear to have been examples of the disease, not only make no allusion to it, but, by employing incision in the treatment of these cases, would seem to show that they were unacquainted with its existence; for it is only natural to presume, that if they had known the equally certain, and less dangerous and disfiguring mode of treatment by seton, so successfully adopted by Maunoir, they would have given it the preference.

About four years ago the three memoirs to which I have already referred came accidentally into my possession, and the singularity of its title induced me to read the "*Sur l'Hydrocele du Cou.*" Since that time, accident again favoured me by enabling me to observe three striking examples of the disease, all of which displayed the utter fallacy of Baron Percy's objections. According as they presented themselves, accurate notes and drawings of these cases were taken, with a view to publish them, at some future day, and give such a general account both of the memoir in question and the whole subject as might prove acceptable to the profession. That time is now come, and I trust, that, aided by the two annexed lithographic plates, I shall be enabled to carry my intentions into effect.

According to Professor Maunoir, the disease has been often observed without its true nature being known; as may be seen in treatises on tumours, and from one detailed by Heister, and three cases quoted by Plouquet. He declares also, that all the cases of it which he has seen, had been confounded with and treated as goitre, by numerous members of the profession. The disease consists in the formation of serous cysts, commencing very small at some point of the side of the neck, and gradually increasing for several years, to such a size as to occupy the whole of the front and of one side of the neck, and seriously to impede respiration, deglutition and speech.

The tumour so formed conveys to the touch a distinct sense of fluctuation, and contains a fluid of either a limpid, a reddish, or a dark coffee colour, and coagulable by heat. In the great majority of instances, it exists independently of any enlargement of the thyroid gland: and, in his fourth case, it was situated behind the angle of the lower jaw, and, of course, quite removed from this gland. But he has, in two instances, observed the contrary, and the second of his cases, in which the gland enlarged and indurated formed one-eighth of the whole tumour, is an example of this complication.

With respect to the treatment of this disease, the learned Professor's opinions and practice are these:—"Although," he says, "there may be great affinity between encysted tumours in the neck, and hydrocele of the tunica vaginalis, yet it appears to me that, in hydrocele of the neck, the cyst is more dense, and more difficult to be excited to adhesive inflammation. Accordingly, its treatment should not be directed by analogy, and it is not proper to have recourse to the cure by injection, although it seems, at a first view, to be the best. I wished to try it, and have been obliged to renounce it as a bad plan, and not one free from danger. An injection, which is not very stimulating, will effect nothing, or almost nothing, on a very thick, and in general, an old cyst. If a very active injection be em-

* *Memoires sur les Amputations, l'Hydrocele du Cou, et l'Organization de l'Iris.* Par J. P. Maunoir, aine, Prof. D. C. Geneve et Paris, 1825.

† *Chirurgie Clinique de Montpellier*, t. ii. p. 79—87.

‡ *London Medico-Chirurgical Trans.* vol. xvii. p. 44, et seq.

ployed, it will cause great pain, and give rise to very alarming spasmodic symptoms. Moreover, I have to observe, that sometimes enlargement of the thyroid gland complicates the treatment. In that case, the object is not merely to produce adhesion of the walls of the sac; it will be necessary to employ a mode of cure by which we may succeed at the same time in resolving this gland, when it projects into the tumour, as I have seen in two patients." As to laying open the tumour by incisions, as practised by Heister, or extirpation of the whole or of only a part of the cyst, he condemns these operations as being serious, difficult, and calculated to prolong a cure, by producing a large wound, and one of a kind very slow in cicatrizing. In short, the treatment which he has been led to adopt and recommend consists in puncturing the tumour, and, after evacuating its contents, passing a seton through it in the direction of its longest diameter. By this plan a fresh accumulation of fluid is prevented, the adhesion of the walls of the cyst, is insured, and the thyroid gland when it happens to be enlarged, is gradually reduced to its natural size.

He relates three cases, all of which are so generally interesting, that I shall here give them in a comparatively abridged form.

Case I.—A washer-woman named Martin, aged 49, still menstruating, with a spherical tumour on the front and left side of the neck, as large as an infant's head, presented the first example of the disease that the Professor had seen, read, or heard of. Originally this tumour had been very small, but increased in quite an insensible manner. It did not force the head to incline to the left, but to the right side, and formed a sort of cushion for her head to rest upon. She had taken burnt sponge, and many other boasted remedies for goitre, but without any benefit. Difficulty of breathing and swallowing came on, and increased in proportion to the growth of the tumour. One day, while washing at the river side, she threw up a very great quantity of blood, fainted, and was supposed for some moments to be dead. The hæmoptysis and oppression continuing, and the swelling being felt to contain a fluid, a trochar was passed into the most prominent and fluctuating part of the tumour, and gave exit to a pint and a half of a deep brown liquid, which coagulated by the application of heat. Complete relief ensued. On the following day, the swelling had returned to its former size; but fluctuation was less manifest for infiltration had taken place between the tumour and the skin.

At the end of fifteen days this infiltration had disappeared, and the cyst was punctured by a trochar, and after being emptied, filled with warm red wine and a small portion of alcohol. This injection, although retained but for a few moments, caused great pain and suffering. Swelling, redness, trismus, and increasing pain, on the following day: leeches, poultices, aperient medicines, and opium, ordered. An abscess, external to the cyst, opened and treated in the ordinary way, until it healed. A third puncture made in the upper part of the cyst by a sharp-pointed bistoury, and giving exit to as considerable a quantity of fluid as at the second. A button-pointed probe was then introduced into the opening, and passed until it became prominent at the most inferior part of the tumour; the point of the probe then cut upon, and the instrument withdrawn, leaving in its place a single thread. This thread frequently renewed: no accumulation of fluid. A seton of ravelled linen passed, and caused abundant suppuration. This seton continued for six weeks, and then removed by the patient, on account of interfering with her ordinary occupations. Both openings fistulous for some months; the upper first closed; and in the year 1813, when she was 63 years of age, her neck was very slender, and her health robust.

Case II.—Monsieur C., of Vevay, aged 40, had for many years a tumour situated on the front and right side of the neck. This tumour extended from the chin and lower jaw to the sternum and clavicle; and in the greater part of its extent, there was a manifest sense of fluctuation, but points corresponding to the thyroid gland appeared to be hard and prominent. The swelling increased daily, became fatiguing from its weight, and ultimately caused difficulty of respiration and speech, and occasionally attacks in which he seemed to be on the point of expiring. A puncture made into the upper and left portion of the tumour, and a pint of limpid, amber-coloured, and perfectly inodorous fluid evacuated. This evacuation reduced the tumour to one-eighth of its size, the remaining portion being formed by the thyroid gland in an enlarged and indurated state. A blunt probe now introduced into the opening in the sac, and carried down to the infe-

rior and anterior portions of the tumour; the point of the probe cut upon, and a single thread passed, in the usual way, as a seton. Great freedom of respiration and in moving the head, instantly followed the complete evacuation of the tumour. Next day, a fresh accumulation of fluid, but much less in quantity, and of a fetid, sanious kind; some fever; stomach deranged. Hippo, followed by infusion of bark, and Spa and Seltzer waters employed, and restored the patient to his ordinary calm state. Pieces of linen gradually increased in size, and smeared with simple digestive ointment, introduced as setons; injections of plain and hydrosulphurated water, and decoction of bark, with honey thrown into the sac.

Discharge less in quantity, and more purulent; the extent of the cavity greatly contracted; and the thyroid gland diminished in size. In a few months the patient's health was completely restored, and his neck became of its natural size.

Case III.—Mademoiselle T. D., aged 20, having for many years a large tumour on the front, and a little to the right side, of the neck, had been subjected to all the known modes of treating goitre. This tumour was of enormous size, and consisted in a great degree of fluid. The least movement brought on cough, and attacks of suffocation. Her parents and friends refused to permit a seton to be passed, but a puncture with a trochar was made in the most depending part, and a cupful of fluid, resembling infusion of coffee, was drawn off. The canula was then withdrawn, with a view of retaining the rest of the fluid, and enabling a second puncture to be made and a seton to be passed. The tumour was very little diminished: the wound was then covered with adhesive plaster, and a roller applied with moderate firmness. After passing some hours in a very quiet state, she indulged too freely at dinner, and in the evening felt oppressed in her breathing, and the tumour became quite black. It was evident, in fact, that the contents of the sac had passed into the subcutaneous cellular membrane. She passed the night badly, and could scarcely swallow a few drops of an anodyne draught. In the morning great difficulty of respiration, and total incapability of swallowing: the parts surrounding the tumour so swelled that the neck was raised to the level of the chin and lower jaw, with which it seemed to form one continued pillar. The whole of the upper part of the thorax was also infiltrated, and the alteration of the voice and dyspnoea were such as to lead to the belief that the effervescent fluid had penetrated into the internal cellular tissue of the trachea. In the course of the day, however, all these symptoms gradually diminished in severity, and the swelling was considerably reduced towards evening. She passed a good night, and on the following morning deglutition and respiration were free. On the fourth day from the operation, the original tumour was diminished by one half, the infiltration and black colour of the skin had disappeared, and the patient was in excellent health.

On the 30th of January, 1812, that is, after about six weeks had elapsed, the tumour was as large and as distressing as ever. A hydrocele trochar, with a flat elastic canula, was passed into its most depending part, and two pints of a dark brown fluid, coagulable by heat, were discharged. On emptying the tumour, the thyroid gland was found moderately enlarged. A blunt probe, armed with a single thread, introduced through the canula, made prominent at the upper part of the cyst, and there cut upon until it could be withdrawn, and the thread left as a seton. For some days nervous symptoms appeared. The two little incisions contracted so much, that the thread could not be moved backwards and forwards but with great difficulty, and such as to create a suspicion of its being lodged in the tissues of the walls of the cyst, which it had cut in gliding, and of having thus left the cavity of the tumour. The silk thread withdrawn, at the instance of her parents, and in order that a fresh accumulation might permit a puncture to be made by a bistoury, (instead of the trochar which had been found so ill-suited,) and enable a cotton wick to be passed as a seton. The tumour soon regained its former size, and the oppression returned. The necessity of this operation repeatedly urged, but as often delayed from some frivolous pretext. The Professor sent for in great haste, on the 16th of April, 1812, and found her with complete loss of sense and motion, slow and stertorous breathing, cold extremities, dilated pupils, and no pulse. No person being at hand to assist in the proposed operation, the tumour was punctured by a hydrocele trochar, and a pint of dark brown fluid discharged. Immediately pulse, respiration, and in short, animation were restored; but permission to pass a seton could not be obtained. On the 7th of May,

the size of the tumour required that it should be again punctured. On the 24th of June, she complained of violent pains in the head, great suffering and oppression. Another puncture made in the swelling, and a quantity of fluid mixed with purulent matter, discharged. 25th, pains returned; astringent applications; increased enlargement of the neck; distress and oppression alarming. Six leeches applied, and the patient well purged with castor oil, without any relief. 27th, tumour punctured, and a lesser quantity of fluid, but more mixed with pus, discharged. 21st of July, symptoms severe, and increasing so much in violence, as to require another puncture, which was rendered difficult by the thickness which the infiltrated cellular membrane had acquired, and, consequently, the increased depth at which the cyst was placed. A silk thread, and, subsequently, a large seton inserted; abundant fetid suppuration; gradual contraction of the sac; an abscess formed and opened at the inferior and lateral part of the neck; a fistulous opening for some months at this point, and at length healed by an injection of a weak solution of sulphate of copper. Seton removed; tumour completely dispersed; and recovery perfect in all respects.—*Dublin Journal of Medical and Chemical Science*.

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42. *Abscess between the Vertebral Column and Pharynx*.—The *Gazette Médicale de Paris* for Sept. 1835, contains an interesting case of this, communicated by M. FORGET. The subject of it was a man 30 years of age—the tumour was situated in the right parotid region; it was soft, and disappeared on pressure, which seemed to displace a liquid. Speech was almost extinct; the deglutition of fluids painful, and respiration difficult. Posterior to the velum palati, the back part of the pharynx, was red, and raised by a roundish elastic tumour. The tongue was strongly depressed by the fore finger of the left hand, and the tumour opened with a straight bistoury. A large quantity of grayish-white thick pus was discharged; the relief was immediate—pus was discharged for some weeks.

Our colleague, Dr. Mott, who saw this patient, stated to M. Forget, that he was invited by one of his professional brethren in New York to examine a young girl who had died by suffocation, in whom a large abscess was found between the vertebral column and pharynx. A similar case occurred to Dr. Manoury of Chartres. Two similar cases occurred in this city, in neither of which was the nature of the case suspected, until developed by dissection. An interesting case of this description is also recorded by Mr. Porter, in his valuable work on the pathology of the larynx and trachea. See *Philadelphia Journal of Medical and Physical Sciences*, xiv. 371.

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43. *Punctured Wound of the Heart—Recovery*.—The following remarkable case of this accident has been communicated to the Medical Society of Trinidad by Dr. J. L. O'CONNOR. "Mr. J. H. a graduate of a British University, æt. 30, was visited by me, 20th April, 1821, under the following circumstances. He had lost his passage to Europe and that of his family (which was paid for by subscription) through his own imprudence. I found him in a sitting posture, perspiring profusely, with hurried respiration, and all the symptoms of acute inflammation of the heart or its membranes. I bled him in a full stream to sixty ounces, when deliquium coming on, he was able to lie down. The anxious countenance was nearly removed, and the voice, which before was scarcely audible, became more distinct. I remained with him for about forty minutes, when the previous symptoms returned with unusual violence; so much so, that I recommended his attendants to send for his friends, as I was apprehensive of immediate dissolution; and insisted on Dr. Williams being called in, as well as any other medical man he might wish. He obstinately opposed any further advice, in so earnest a manner that I began to suspect he had some secret to conceal, and made so earnest an appeal to him regarding his orphan children, that he burst into tears, and stated that he had introduced a darning needle for the purpose of self-destruction, as he believed his object might thus be effected without detection, or disgrace to his profession and family; that he took half an ounce of laudanum previously, from the effect of which he slept eight hours, and after that the pain gradually increased to its present state.

Under these circumstances I sent for Dr. Williams, who said there was evidently carditis, but would not credit the introduction of the needle after he had

carefully examined the part, which was situated between the fifth and sixth ribs. However, it was determined to make an incision down on the part, in conformity with the patient's desire, when the needle, three inches and a half in length, was found on a line with the external intercostal muscles. I attempted to secure it with the dressing forceps, but from the motion attending hurried respiration I could not succeed. Under these circumstances I sent for a watchmaker's pliers, with which I succeeded in extracting it. The moment the needle was extracted all the symptoms were gradually relieved, and in an hour after he merely complained of the incision. Purgative medicines were administered, and he was put upon low diet. In five days he was discharged from my care, and returned to Europe, where he arrived in perfect health, and lived for upwards of ten years.—*Lond. Med. Gaz.* 1835.

44. *Radical Cure of Varicocele.*—Dr. FRICK, of Hamburgh, has cured three patients labouring under varicocele, by simply passing a needle and thread through the dilated veins, and allowing the thread to remain for twenty-four or forty-eight hours, according to the degree of reaction produced. He recommends the method as being as safe as it is simple.—*Gazette Med. de Paris.*

45. *Case of Ruptured Vein.* By T. A. WISE, M.D.—A Syce suddenly checked a spirited young horse, which reared, and kicked him in the ham, inflicting a deep irregular wound, which bled much at the time. I saw him two hours afterwards, when the bleeding had stopped, and he felt very faint. On bringing the irregular flap together I found the external saphena vein had been divided at the upper part of the wound, near its termination in the popliteal. Two inches of the vessel were separated from the neighbouring attachments, and drop after drop of blood flowed from its cut extremity. As a more considerable hæmorrhage might be expected, when reaction of the system took place, I tied a ligature round it, and retained the edges of the wound together with sticking plaster; and prevented all movement of the joint by the application of a splint.

Forty-two hours after the application, the straps were removed, in order to examine the state of the vein, and to remove the ligature, which was quickly found, and a considerable portion of the vein was still unattached to the neighbouring parts, and as there was then no fear of hæmorrhage, and in order to prevent the dangerous consequence of continued irritation of the vessel, I divided the vein, beyond the part surrounded by the ligature, with a pair of scissors. The cut extremity of the vein, next the limb, formed a round circle filled up with a solid, firm, red, homogeneous portion of consolidated blood. On pressing the neighbouring parts no blood flowed, as the solid blood adhered to the internal coat of the vessel.

The part of the vein I had cut off, I took home, and carefully dissected. A longitudinal section being made of the vein, its extremity, for about an inch above the ligature, appeared of the natural colour, and possessed the usual properties of veins. The small portion beyond the ligature was filled with consolidated blood, which was tough, and adhered intimately with the internal tissue of the vessel, the coats of which were denser, and thicker, and the neighbouring parts appeared more vascular than natural. The wound healed up without accident.

In this case, the irritation of the ligature was sufficient to consolidate the blood, which adhering intimately with the internal coat of the vessel, enabled me to remove the irritating cause without the fear of its being followed by hæmorrhage. Had the ligature been allowed to remain, it might have proved so severe as to lead to suppuration, and the dangerous extension of the inflammation along the vein. The progress of the inflammation in this case affords important indications when ligatures are to be applied to veins; by proving the advantage of removing them, or, as in the present case, dividing the vessel beyond the ligature twenty-four or thirty-six hours after their application. At this time the irritation will have consolidated the blood, so as to prevent the recurrence of hæmorrhage, and the irritating cause will thus be removed when no longer required, and when its continuance would be followed by an extension of the inflammation along the vein, and thus endanger the life of the patient.

The above case proves, that after a ligature has been applied to a wounded

vein, so as to act as a stimulant, and produce consolidated blood, or the adhesive stage of inflammation, its intention has been accomplished. A further continuance of the irritation of the ligature will endanger the inflammation passing to the suppurative stage, which is always dangerous when it occurs in veins. To avoid such a consequence ligatures to veins should always be applied with a slip-knot, which ought to be removed at the first dressing, as no longer necessary, and liable to act unfavourably if left longer attached to the vein.—*India Journal of Med. Science, February, 1835.*

46. *Case of Partial Fracture of the Arm.*—The following case of this accident, the existence of which is doubted by some surgeons, is related in the *India Journal of Medical Science*, for May, 1837, by Mr. Raleigh, surgeon of the Presidency General Hospital.—“T. M., æt. about nine years, a very weakly child, was a patient in the hospital for a sore on the leg—during the night he fell from his cot, and I found him next morning complaining of much pain of the left elbow, which was swollen, and exquisitely painful—on careful examination I could distinguish no signs of fracture. A few leeches, cold lotion, &c. &c. were had recourse to, which somewhat relieved the uneasiness and reduced the swelling, but pain still continued. From time to time, during a week, I carefully examined the part—and could detect none of the usual indications of fracture, but it appeared to me that the humerus admitted of slight YIELDING at the centre. Splints were now applied, and worn for three weeks, and on their removal the humerus could be distinctly felt to be enlarged at the centre of the bone (for the arm was extremely thin)—and the yielding of the bone was not now to be accomplished. I am induced to believe that this was a case of partial fracture, or partial splitting of the humerus, in which sufficient of the bony structure remained unseparated to retain the broken portions in their natural position, and prevent their being moved on each other, so as to occasion crepitus.”

47. *Case of Fracture of the Humerus by Muscular Action.* By EDWARD SEATON, Esq., R. N.—William Wibley, aged thirty-six, a labouring man, occasionally employed as a coal-whipper was on the evening of the 27th ult. looking on at a game of cricket, when, the ball accidentally rolling at his feet, he threw it violently to a great distance towards the players. To use his own expression, he felt on the instant that he had thrown his arm away. The immediate consequence was, inability to move the fore-arm, with deformity above the elbow, and great pain. When applied to next morning, I found unequivocal signs of fracture of the humerus, that bone being broken about three inches above the elbow-joint. On inquiry I learned that the man was perfectly sober, had neither fall nor blow, and simply performed the act of throwing the ball.

I would only add, that there is no reason to suppose particular liability to fracture in him; otherwise, as a working man of the class described, it is more than probable that it would have occurred before. The state of his general health is very good, and the bony structure strong.—*London Medical Gazette, August, 1835.*

48. *Lithotomy.*—In an article in *Russ's Magazine*, (No. 2, Vol. 44,) Professor BENEDICT states that the operation of Lithotomy has been performed in the Surgical Clinic of the University of Breslau, during the six years, from 1828 to 1833 inclusive, thirteen times; once on a girl of twelve years; the rest on males, the oldest of whom had reached the age of fifty-three. All these patients were cured, with the exception of four, none of whom died immediately after the operation. Thus one of these four, a boy sixteen years of age, had been dismissed cured from the establishment, but died eleven weeks after of typhus fever. The second died fourteen days after the operation, when the left kidney was found in a state of suppuration, and the right one engorged. In the third case, death on the 11th day, evidenced suppuration of the left kidney, extending down to the pelvis. The fourth case was fatal on the fourth day from peritonitis. In reference to lithotomy, Professor Benedict relates a very curious case, which, on account of its termination, is worthy of record. The patient, fifty-three years of age, who had long suffered from symptoms of stone, was received into the hospital in 1816, but left it without an operation having been performed. After

a lapse of twelve years, the patient presented himself again, but during this time the calculus had acquired such a magnitude that whenever the sound was passed between it and the bladder, it became locked. It was thought scarcely possible to remove the stone by an operation; however, this was undertaken, and the incision being prolonged considerably towards the rectum, (which was not injured,) the calculus was extracted after its outer shell had given way under the forceps. The stone weighed seven and a half ounces, without counting several fragments that were lost. On the fifth day the patient was seized with low typhus fever, without any signs of inflammation of the urinary or abdominal organs. The usual stimulants seemed of no avail, when the author accidentally learned that his patient was a confirmed brandy drinker. All other means were at once laid aside, and the patient given a *tablespoonful of brandy* every two hours. This treatment was followed by such happy results, that in four days the quantity of brandy could be diminished, and the patient was content with a glass at breakfast. The patient was discharged cured after some months.—*Lancet*, Oct. 3, 1835.

49. *Ligature of Umbilical Hernia*.—Professor BENEDICT states, that this operation has been twice practiced, according to Dessault's method, in the Clinique, within the period above mentioned. Although both cases were successful, the author says he would neither recommend nor undertake it again. In these, as well as in all the other similar operations practised antecedently, symptoms of severe inflammation of the abdomen set in after the third day, and were combatted often with very great difficulty. The author has frequently removed fungoid excrescences from the navel of young children by the ligature, (a disease frequently met with at the Clinique,) without giving rise to any of the accidents before described.—*Ibid*.

50. *Cancer*.—The operation for cancer (not including cancer of the lip) was performed, Professor BENEDICT states, at the Clinique, during the period already mentioned, thirty-seven times. However, with the exception of one or two cases treated by arsenic, and apparently cured, a *radical cure* was not obtained in a single case.

Extirpation of the breast was performed three times, and under circumstances apparently very favourable; in all the disease recurred again. Of ninety-eight amputations of the breast, which the author has performed since he undertook the charge of the Clinique, two ended fatally from exhaustion during the healing of the wound; and in all the rest, with the exception of thirteen, the disease returned after the wound was healed, and terminated in death. With regard to the remaining thirteen, the author observes he is morally convinced that, in several cases, an error of diagnosis was committed, and breasts were removed that were merely affected with scrofulous tumours, sarcoma, or some other innocent change of structure.

The above results are worthy of serious attention, and serve, unfortunately, to confirm the opinion advanced by many surgeons, that in most cases cancer is a constitutional, not a local disease. After an investigation of a great number of morbid specimens of this disease, the author proposes to divide scirrhus into three kinds; viz., the lardaceous, the hydatiform, and the knotty scirrhus. Passing by the two former, as sufficiently known, the author gives some remarks on the latter that are not without interest. This is a rare affection, and, on account of its march, is frequently confounded with a malignant and fatal form of scrofula. The patients are generally affected with small knots in one or both breasts, which do not coalesce during the progress of the disease. After these appear the ordinary tumours in the axillæ, and at the same time we perceive ranges of small knots along both sides of the neck, tumours in the inguinal region, on the shoulders, and in several other parts of the body. Each of the knots now mentioned remains isolated, but approaches the skin, and finally becomes attached to it. The integument here assumes a hard, cartilaginous feel, is covered with varicose veins, and turns into a single small cancerous tumour. The patients now generally suffer under pectoral symptoms, with abdominal derangement, and in all the cases which occurred to the author, death took place in less than six months.

Cancer of the lip was removed in fifty-one cases, all successfully except one,

where the patient was in a state of great weakness at the time of the operation. The author, however, regards it merely as a *palliative* operation, as it invariably returns in some other part of the body, or in the cicatrix itself. There are, indeed, a few cases in which the tumour did not reappear, but here it was evidently a local disease, produced by some external cause, and not perfectly identical with the cancerous disease. As far as the author's observations extend, this false cancer is generally situated in the red surface of the edge of the lip, and does not pass beyond it; is more flaccid, and is chronic in its march; the sympathetic swellings in the neck are wanting. According to the opinions of modern surgeons, we may hope for a successful result whenever there are no tumefied glands under the jaw or in the neck; but from the author's experience, the absence of these signs does not justify a favourable prognosis. Either small soft tumours of the glands already exist, as may be discovered by a minute and careful examination of the parts in the neighbourhood, or the lymphatic system is implicated, without any actual enlargement of the glands, which does not take place until some time after the healing of the wound.—*Ibid.*

51. *Case of Luxation of the Third Cervical Vertebra. Recovery.*—A man 75 years of age, was admitted into the Hôtel Dieu, under the care of M. Sanson, to be treated for dislocation of the bones of the neck. He had fallen down stairs, and his head getting jammed between the bannisters, a luxation was the consequence. The severe and sharp pain which he immediately felt, and which was aggravated by the slightest movement, obliged him to remain perfectly motionless. Some persons came to his aid in a short time, and put him to bed; but two days having elapsed without any benefit being derived from repose, he was taken to the hospital.

The nature of the case was readily recognised. On the upper and back part of the neck was a tumour, which was separated from the occipital bone by a considerable depression. The head was bent forward, and to the left; the chin was fixed on the upper part of the sternum; and the patient felt extreme pain whenever any attempt was made to disturb the position of the parts. There was, however, no reason to suspect that any compression of the spinal cord had taken place; the limbs were perfectly capable of voluntary motion; there was evidently no paralysis of the motor or sentient nerves.

Blood was taken from the arm, and leeches were twice applied to the tumour. For a fortnight the patient suffered violent pain, and could not endure to be touched; but at the end of that period his sufferings began to diminish, and the neck, which at first was quite fixed, now gradually became capable of motion.

In the course of four months, during which the man remained in hospital, only a partial power of moving the head was obtained. The lateral movements were most easy; those of elevation and depression less so, and much limited. The chin could not be withdrawn above four inches from the sternum; and the inclination of the head was always downwards, and to the left. On the superior and posterior part of the neck, there is a still prominent and hard tumour, with a marked depression between it and the occiput; it is obviously owing to the third cervical vertebra, which is displaced backwards.

The man has resumed his usual occupations, without any other inconvenience than that which is owing to the position of the head, and the obstacle to its movement. He preserved the use of his limbs all along, suffered nothing in his general health, and very little in spirits.—*Gazette des Hôpitaux.*

52. *Case of Ligature applied to both the common Carotids.* By Prof. Kuhl, of Leipsic.—S., a day-labourer, aged 53, of a robust muscular habit, whilst serving in a Saxon regiment of heavy dragoons, 25 years ago, was precipitated from his horse into a ditch, and severely injured at the occiput. Alienation of mind succeeding this accident, he was sent to a civil hospital, and after some time recovered his senses. A twelvemonth subsequently a small tumour emerged from the occiput, gradually increased in circumference, and although perfectly indolent, evinced by strong and conspicuous pulsation an aneurismal character. An ignorant practitioner, mistaking the tumour for an abscess, opened it, upon which an impetuous rush of blood followed. The obscure account given by the patient of the progress of his complaint, is scarcely worthy of repetition. An orifice emit-

ting blood frequently formed itself on the aneurismal tumour. At the commencement of 1834, whilst in the act of chopping wood, a splinter from the latter penetrated the affected part, occasioning a sudden and very copious effusion of blood. A country surgeon succeeded, with the help of compresses and bandages, in allaying the bleeding, but imperfectly; and on the 22nd of June the patient was transferred to the St. James's Hospital at Leipsic. Loss of blood had so debilitated him, that for a length of time he could scarcely rise from his bed at all; and from the frequent and prolonged fainting fits with which he was seized, his end was feared to be approaching.

The aneurismal sacs occupied nearly the whole hairy surface of the head, descending to the radix nasi, so as to disfigure the forehead. But the main seat of degeneration was the occiput, at the upper part of which three orifices appeared, each about half the size of a sixpenny piece. From these, upon removing the bandages and compresses, red blood sallied forth *cum impetu*. The aneurismal tumours appearing to proceed from the left occipital artery and its ramifications, it was to be feared that the artery itself, from its vicinity to the sacs and a consequent morbid displacement, would be difficult to take up, and that its coats might have undergone either softening or induration. We resolved, therefore, to apply a ligature on the left common carotid, which operation was accordingly performed, in the usual manner, on the 24th of May. After being seized with convulsions and faintings during the operation, the patient was removed to his bed in a state of insensibility. Compression of every kind was dispensed with, yet no hæmorrhage ensued. Shortly after the operation a venesection was ordered. Towards evening the patient complained of repeated throbbings, of greater or less violence, in the artery which had been tied. Renewed venesection, low and spare diet, an acidulous draught, and, the bowels not having relieved themselves, an opening electuary. A hæmorrhage occurring towards the commencement of June, rendered a compressive bandage indispensable.

June 12th.—Examining the vasa adducentia of the left occipital artery, we were rather surprised to discover pulsation. The aneurismal tumours appeared to be approaching to suppuration, and to descend more and more towards the nape of the neck.

19th.—The twenty-first day subsequent to the operation. The ligature came away spontaneously. General state of the patient favourable.

July 5th.—Cheered with the hopes of recovery, the patient gradually regains his appetite, whilst all the functions appear to mend.

20th.—Strength visibly improving. Patient contrives to walk about with the assistance of a stick. The wound in the neck is entirely closed.

26th.—The throbbing on the right side of the head ceases on the right occipital artery being compressed: hence we conceived hopes that on tying the right carotid, all aneurismal phenomena would vanish. All the arterial sacs have descended to the right side, leaving the forehead free.

August 3d.—On loosening the bandage and removing the compresses from the right occipital artery, arterial blood issued with great force from a trifling wound caused by excoriation, but penetrating down to the skull-bone. The hæmorrhage was, however, intercepted by powerful compression beneath the spot.

4th.—Towards seven in the evening so enormous an effusion of blood took place, that the most potent compression scarcely sufficed to subdue it. Fearing for the patient's life, from the excessive frequency and the filiform nature of his pulse, no less than from the extreme prostration of his strength, we hastened to apply a ligature to the right common carotid. During the operation, which had the instantaneous effect of stopping the hæmorrhage, the patient was affected with slight convulsions. Immediately afterwards his face became pale, and both that and his tongue cold. Still no phenomena occurred indicative of a deficiency of blood in the vessels of the brain, none of the functions of the senses being at all impaired. During the night the patient enjoyed tranquil sleep, which was only once or twice interrupted by a convulsive movement of the right arm.

7th.—Patient appears cheerful, and denies any sensation of throbbings, such as those which succeeded the former operation. He complains, nevertheless, of a distressing spasmodic motion in his right arm, and at the same time of a heaviness in his head, and a difficulty in swallowing.

Venesection, and an acidulous draught.

11th.—At eight in the evening a hæmorrhage took place from behind the right ear, the identical spot from whence the blood had issued a week previously. The effusion was, however, put a stop to on applying pressure at the occipital insertion of the trapezius muscle. This latter circumstance induced us to apply a *mediate ligature*, with a curved needle and thread, round this evidently much dilated branch of the transverse cervical artery. The upper strata of the cervical muscle were thus comprehended within the ligature.

12th.—Night tranquil; nevertheless pains and heaviness of the head demanded a venesection, which was attended with entire success.

15th.—Patient complains of an indistinctness of vision, especially when looking at an object directly in front of him. He likewise suffers from extreme debility.

20th.—Pulsation of some artery felt at the centre of the nape of the neck.

23d.—Towards six in the morning the patient was seized with rigors, which lasted a quarter of an hour, without, however, being succeeded by heat and perspiration. Suspicion of an impending intermittent.

24th.—Rigors returned at the same hour, and lasted somewhat longer. The same cold paroxysm observed at 6 p. m. on the 25th, and at 5 p. m. on the 26th.

27th.—Rigors returned with violence at 4 p. m. They increase daily in duration, but are never followed up by the stages of heat and sweat. Absence of all gastric symptoms. The appetite unusually great; pulse frequent.

28th.—Access of rigors about noon; a repetition thereof towards evening. Eight grains of the sulphate of quinine ordered.

29th.—Phenomena the same as yesterday. The remedy to be persevered with.

30th.—A more ample diet allowed. Eight grains of the sulphate of quinine ordered. No return of the rigors.

31st.—The ligature came away spontaneously from the wound in the neck.

September 3d.—The patient acquires a daily accession of strength, and with it renewed hopes of recovery. He is now again able to rise from his bed.

5th.—The aneurismal tumours at the occiput appearing about to suppurate, poultices were applied to them for several days, for the purpose of softening the common integuments. An incision was then made into the largest sac, from which a copious discharge of fœtid ichor took place.

10th.—Although the patient is now able to take exercise in the open air, he yet complains of a lassitude in his limbs and of headache, accompanied by tinnitus aurium.

22nd.—At two in the morning a considerable hæmorrhage took place from a minute orifice on an aneurismal sac, situated just above the right sternocleidomastoideus muscle; it, however, ceased again, entirely of its own accord. Pulse frequent, and small. For several hours the patient suffered much from vertigo, but was relieved by the detraction of eight ounces of blood from the arm.

25th.—A portion of blood oozed away towards the night from a dilated branch of the right occipital artery, but was easily checked.

Ped. luv. acra and an acidulous draught administered.

30th.—At 5 a. m. a slight effusion of blood occurred from the same spot, but ceased without the employment of surgical means. The remedies to be repeated.

October 5th.—A repetition of the hæmorrhage again readily checked itself, but a more copious one took place two hours subsequently, the blood bursting forth through the common integuments in the neighbourhood of the right mastoid process. The patient complained of lancinating pains in that part, but was overjoyed at the hæmorrhage suddenly ceasing. Although the aneurismal sacs secrete a considerable quantity of purulent matter, a knotty surface still disfigures the occiput. On the same day, a graduated compress of agaric, together with a very tight bandage, were applied, in order to prevent a return of hæmorrhage.

16th.—On removing the bandage, we observed that the parts from which the late hæmorrhage had taken place had discharged a considerable quantity of pus, although it evinced no traces of fresh hæmorrhage.

20th.—The circumference of the aneurismal tumours has diminished of late; the pains have ceased; the patient enjoys sound sleep; the whole aspect of the occiput has improved; the wound in the neck is almost healed up. The patient, who till now was restricted to a vegetable diet, is allowed to partake of animal food.

November 20th.—The wound in the neck has entirely cicatrized. A sacciform tumour still remains at the occiput, but diminishes daily by suppuration. A sore at the nape of the neck, which had now and then emitted blood, is almost healed. Two arteries ascending the occiput, together with a temporal artery on the left side, above the zygomatic arch, are distinctly felt. The pulsation of the radial arteries has become steadier than formerly: in short, all the functions proceed most satisfactorily.

Dec. 23d.—The individual whose case we have thus detailed is now perfectly restored to health and strength, having this day left the hospital to return home. At the occiput a single knot still remains, of the size of a pigeon's egg; but its removal may be expected to take place through the process of absorption.—*Lond. Med. Gazette.*

53. *Reduction of Strangulated Hernia, by means of the Air-Pump.* By Dr. KOHLER.—The use of the air-pump, as an agent in the reduction of hernia, was first noticed, we believe, by Professor Hauff, in the year 1818. Hufeland's Journal for July, 1832, also contains some remarks by Dr. Busch on the same subject. Finally, the No. of Hecker's Journal, now before us, contains several cases, which, as they are probably new to our English readers, we shall notice briefly.

Case 1.—In October, 1833, the author, Dr. Kohler, was called to a Jew, sixty years of age, who had suffered the last nine years from scrotal hernia. After some days of a fit of indigestion the patient began to suffer from pain in the abdomen, and the hernia could not be returned even by a surgeon; the symptoms were now rapidly aggravated, and the author on his arrival found the patient in a state of great danger. According to the account of his attendants, the hernia was strangulated for three days; the face was now sunken; the body covered with a cold sweat; the extremities cold; the pulse barely perceptible. No stool for the last three days. The author had immediate recourse to all the common remedies, venesection, cold applications, narcotics, enemata, baths, drastic purges, &c., without any effect; the danger was most pressing, and nothing seemed left but the operation; however, the exhausting pump was tried as a last resource. Immediately after the application of the apparatus, which was placed over the abdominal ring, the operator began to perceive some gargouillement in the hernia; this gave encouragement, and in a short time, to his great pleasure, the parts were restored to their natural position. Alvine discharges were obtained in a few hours; the vomiting ceased, and the patient was restored to health in a few days.

Case 2.—In January, 1834, a female, sixty years of age, was affected with inguinal hernia on the right side, and sudden femoral hernia on the left side; it was impossible to return this latter; symptoms of strangulation soon set in, and the necessity of an operation was agreed on in a consultation of surgeons. The air-pump was applied. After the first application, a little gargouillement; after the second, partial return of the gut; after the third, complete reduction of the hernia.

Professor Janekowski has communicated a very remarkable case to the author, of which the following is an abstract:—

Case 3.—The patient, a strong healthy woman, fifty years of age, perceived the first trace of an umbilical hernia about two years before. The tumour had acquired some size before she experienced any remarkable symptom; it was then partially reducible, and the pains in the abdomen and swelling were alleviated by opening medicines. After the lapse of about a year the tumour became suddenly the seat of intense pain; there was obstinate constipation for six days, which only yielded to general blood-letting and purgative enemata. On the sixth day inflammation set in, and terminated in abscess of the integuments. At the end of August the patient was attacked a second time with inflammatory symptoms, which now assumed so severe a character as to threaten her life with imminent danger. The hernia could not be reduced by any of the ordinary means, though seconded by venesection and repeated purgative clysters. On the third day the tumour became excessively painful and hard, stercoral vomiting supervened, and a fatal termination seemed almost inevitable. The air-pump was now applied, but at first produced a great deal of pain; however, it was removed after a short time, and the taxis was now practicable with the greatest facility.

In a few hours copious evacuations were produced, the symptoms of strangulation subsided, and three days later the patient was perfectly cured.

In addition to the cases which we have just quoted, the author details six others, where the air-pump was employed with equal advantage, and adds that in twenty-three cases, the greater part of which were desperate, the means now alluded to did not fail to justify his confidence; he therefore concludes, by expressing a hope that a remedy of such power may meet the general consideration which it deserves.—*LANCET, from Hecker's Annalen, Vol. I. No. 1.*

54. *Goitre—extirpation, cure.*—Professor GRAEFE, of Berlin, in 1833, performed the operation for the extirpation of goitre in two cases, with success.

Case 1. A young man, 22 years of age, had a tumour the size of a goose's egg in the anterior and middle part of the neck, which occasioned extreme difficulty of deglutition and respiration. These symptoms, so little in accordance with the small size of the tumour, rendered it probable that the latter adhered closely to the anterior part of the larynx and trachea, which circumstance M. Graefe was careful to keep in view during the operation. An incision was made through the skin, commencing a finger's breadth above the superior margin of the thyroid cartilage, and extending down the median line of the neck to the top of the sternum. The subcutaneous and sternomastoid muscles were then drawn to the right and left, which exposed the tumour, presenting a shining aspect. The surrounding parts were detached with the finger, and a bistoury, and some arteries were tied. The tumour was now found to adhere closely to the larynx and trachea, without the intervention of any cellular substance. The excision of the goitre was performed with the greatest caution by small strokes of the knife, and the portion of it which adhered to the air tube was not removed. Only eight arteries were tied during the operation. The wound was filled with lint—union by the first intention being avoided, in order that the still adherent part of the tumour might be discharged by suppuration, which accordingly took place. The lips of the wound were afterwards placed in accurate apposition, and the cure was complete at the end of six weeks.

Case 2. A young woman, twenty-five years of age, of a delicate constitution, had been affected from her infancy with a goitre which was divided into three very distinct lobules. The immense size of the tumour precluded its entire removal at one operation; it was therefore determined to begin with the middle lobule, which was the largest, and appeared to be the nucleus of the morbid growth. The operation was conducted as in the preceding case, except that the tumour being attached to the larynx and trachea only by loose cellular tissue, there was no necessity for leaving any part of it adherent. The wound was united by adhesive straps, and was entirely cicatrized in six weeks. The lateral lobes, instead of enlarging, as there was reason to fear, diminished considerably, confirming the opinion of M. Graefe, that the middle lobe formed the nucleus of the tumour. Perhaps, also, the inflammation consequent on the operation, and the obliteration of the vessels that were tied, contributed to the absorption of the remaining lobules.—*Ryan's Lond. Med. & Surg. Journal, 4th April, 1835.*

55. *Cancer of the lip—resection of the lower jaw.*—M. AUGUST MARSEILLE, in a recent letter to Dr. Clot-Bey, gives an account of a very extensive operation on the lower jaw and the neighbouring parts. The patient had been attacked three several times with cutaneous cancer of the lower lip. Twice the tumour was excised, but the third time the disease had made horrible progress before surgical aid was requested. When the case was presented to M. Marseille, the condition of the patient was as follows:—He was decidedly attenuated, his complexion pale yellow, with a slight leaden hue, and there was no fever. The cancerous affection invaded externally all the lower lip and parts about the chin, extending, in the shape of hardened lumps, to the region above the hyoides. All these parts were in a disgusting state of ulceration, pouring out fetid pus. The lower jaw was swelled and softened to within half an inch of the angles, the teeth displaced and sticking here and there over the tumour, and the sublingual cellular tissue in a decidedly cancerous condition. The operation being demanded by the patient, and refused by the surgeon, the former declared his determination to commit suicide unless indulged in his wish, on which the latter reluctantly consented.

The mouth was dilated by cutting the commissures to the right and left above the level of the diseased skin, and from the extremities of these incisions two others were carried down obliquely, until they met each other at the little groove or centre of the os hyoides, thus enclosing all the diseased parts in one large V incision. The lower jaw was then sawed through by a chain saw, within half an inch of each of its angles, and the bone, with the mass of the diseased parts, were then removed by the straight bistoury. The frenum linguæ was next secured by a waxed thread, and the tongue thus held aside by an assistant, while the diseased sub-lingual tissues were dissected off by curved scissors and forceps. Many vessels were secured seriatim, and the patient was imminently threatened with suffocation, but no actual cautery was necessary. The wound was nearly closed by six points of suture, one of which held and drew forward the frenum linguæ, and by a methodical bandage. The shocking deformity was concealed by an artificial jaw or mask, and the constant percolation of saliva was prevented by a sponge. The patient departed for his native village two months after the operation, eating easily and speaking intelligibly.—*Gaz. des Hôpitaux*, May 9, 1835.

56. *Spontaneous luxation from coxalgia cured by permanent extension.*—Dr. DUCROS, the younger, has reduced a spontaneous luxation of the femur forwards on to the horizontal ramus of the pubis, which occurred in a female, aged 27 years, labouring under inflammation of the hip joint. Permanent extension and counter extension were kept up steadily for fifty days, and the patient was then found completely relieved, not only of the danger of luxation, but also of the inflammation of the joint. "Actually the patient walks freely, and every thing about her proves a complete cure."—*Gaz. des Hôpitaux*, June 30, 1835.

57. *Two cases of Fracture of the Ribs by Muscular Action.*—By C. B. NANKIVELL, M. R. C. S. Case I.—Mrs. R. of extremely thin, spare habit, aged 63, but apparently much older, applied to me on the 6th of February last, affected with slight bronchitis, with which she had been attacked but a few days previously. She stated that up to this period her general health had been good, but that of late years she had felt "much increasing debility;" she had never before had a cough. The breathing was not now much affected; she had occasionally severe paroxysms of coughing, which generally ended in the expectoration of a small quantity of tenacious mucus; the pulse was 100 in the minute, and rather hard in its beat; the skin dry, but not much augmented in temperature. Percussion elicited a very clear sound on both sides of the chest. The stethoscope discovered the respiration of the right lung to be pure and very audible, and in that of the left a mixed sonorous and mucous râle, principally in its inferior lateral portion. A mercurial, followed by a saline aperient, an antimonial mixture, low diet, and rest, were directed.

Feb. 7.—In the evening of this day my patient was much relieved. The skin was warm and moist, the pulse had fallen to 90, and, although there was a good deal of cough, it was attended with easier and more copious expectoration.

Feb. 8.—I was summoned to my patient, whom I found labouring under difficulty of breathing, and most acute pain in the side on full inspiration. The pulse had risen to 120, and was hard and full, and there was a considerable accession of the ordinary febrile symptoms. On examining the chest, percussion gave a perfectly clear sound; no ægophony could be heard through the stethoscope, and the râle sonore seemed to have given place to the râle muqueux, but that was not so extensive as two days before. As the stethoscopic examination did not lead to by any means a satisfactory explanation of the excruciating pain complained of, I was induced to inquire more particularly into the circumstances attending its commencement; and I then found that it had come on in the night, during a violent paroxysm of coughing, in which my patient had felt, as she expressed it, "something crack in her side." On examining the seat of pain, there was a very evident fracture of the fifth and sixth ribs, on the left side, a little nearer to the sternum than the junction of their middle with their anterior thirds. The walls of the thorax were in this case so extremely thin, and the outlines of the ribs so distinct, that there was no difficulty in ascertaining the situation of the fracture. A crepitus could be readily felt either in the act of coughing, or on the pressure of the fragments by the fingers. There was no displacement or overlapping of

the different portions of the broken bones, which may be accounted for by the general rigid state of the thoracic parietes. The treatment of fractured rib was now adopted. Ten ounces of blood were taken from the arm, and a bandage was applied round the chest, which afforded much relief. It is unnecessary to give further details of this case; the bandage, without any other medicine than an occasional aperient, conducted it to a safe termination.

Case II.—Elizabeth Scattergood, aged 59, of the same emaciated appearance as the subject of the last case, applied at the dispensary on the 10th of last March, complaining of cough and acute pain in the left side. This woman had been several times under my care, with severe dyspepsia, attended with gastrodynia, pyrosis, and very obstinate constipation, but she scarcely ever remembered having had a cough before this illness. She said that she had had a "cold" about a week, and that while coughing violently two days ago, she had felt something give way in her side, since when she had experienced extreme pain in breathing. On examination, I discovered a fracture of the tenth rib, a little anterior to its angle. The posterior overlapped the anterior portion of the bone; a crepitus was easily distinguished in coughing, and pain was produced on pressure of the anterior fragment. A bandage was productive of great relief, and the patient gradually recovered under its use.

In contemplating the foregoing cases, it seems natural to consider whether similar injuries do not occasionally occur without their being discovered; or whether they may not, in some instances, be mistaken for pneumonia, or pleuritis, or for rupture of some of the fibres of one of the respiratory muscles. When we recollect the difficulty with which, on some occasions, fractures of the ribs are ascertained, in muscular or obese persons, even though the nature of the accident give rise to the suspicion of such an injury, we shall be disposed to believe that it may escape detection when the attending circumstances do not lead us to suspect its existence. There are two or three points in the cases I have described which seem more particularly to demand our attention: the subjects of both were extremely thin, being emaciated in appearance; the bony parietes were in each case, and especially in the first, remarkably rigid, and possessed little apparent mobility, the costal cartilages probably being more than usually advanced in ossification: in neither case had the patient had cough before. These circumstances were no doubt favourable to the effect produced. The mechanism of the chest was called to the performance of an unaccustomed and unnatural function; and we can readily imagine, at the moment when the rigid thorax of each of these persons was expanded to its utmost limit by the inspiratory muscles, that the sudden and violent action of the rectus and obliquus externus, in the first case, and of the two obliqui in the second, would be fully adequate to the fracture of one or two ribs, rendered fragile by advanced age, and a feeble constitution.—*Lond. Med. Gaz.*, 25 July, 1835.

58. *On the Removal of Sequestra without an Operation.*—Dr. BOUGET has published a new plan for the removal of sequestra without an operation, in the *Journal de la Société de Médecine de Bordeaux*, in an article entitled, "Souvenirs de la Clinique de Delpech."

M. Delpech, discouraged at the unfortunate results in several cases of necrosis of the tibia, turned his attention to measures which might remove the sequestrum without having recourse to the painful operation which is generally necessary. In this search he was successful, for he found that, by means of diluted sulphuric acid, he could destroy the phosphate of lime in the bone to be removed, which is then reduced to its gelatinous parenchyma, and can be easily taken away with the common dressing forceps.

Delpech first employed this application in the year 1811. At this period, the wounded at the battles of Orthes and Toulouse, flocked in such numbers to Montpellier, that the Hôpital St. Eloi was soon crowded, and a supplementary one was formed, at the head of which was placed M. C. Pages, since so well known by his valuable lectures on external pathology. Hospital gangrene soon appeared in both hospitals, and caused such extensive ravages that the majority of the amputations terminated fatally; even in those cases which were the most successful; a greater or smaller portion of bone was left exposed by the destruction of the soft parts. A young man, who had undergone amputation of the arm,

and had twice suffered from hospital gangrene, which had been with difficulty arrested, had the humerus projecting about an inch and a half beyond the flesh. According to the ordinary treatment the sequestrum would not separate perhaps for months, but it happened far otherwise under M. Delpech's directions. He caused the external surface of the bone to be covered with a pledget of lint, soaked in dilute sulphuric acid, and a wad of the same, equally wetted, to be passed into the medullary canal, whence the reticular apparatus had been previously removed; at the end of twenty-four hours the portion of denuded bone was so softened that it could be easily detached: ten days after the extremity of the bone was covered with fleshy granulations, and a complete cure was speedily accomplished.

In the year 1816 a man entered the clinical ward, having a necrosis which extended through the whole length of the tibia. Although he evidently possessed a good constitution, and was apparently capable of undergoing a serious operation, M. Delpech determined to have recourse to the proceeding which had proved successful in the previous instance. He destroyed the soft parts at the upper part of the leg by means of the *potassa fusa*, and when the eschar, which was about the size of a crown-piece, had sloughed, he applied a pledget of lint, soaked in the dilute sulphuric acid, to the bone; after two or three dressings, renewed every five or six hours, it became soft enough to be taken away by dressing forceps. This being effected, the application of the *potassa*, followed by the acid, was made lower down; the sequestrum was exposed to the extent of five or six inches in length, and an inch and a half in width; it was then extracted with the greatest ease. It was more than six inches long, and constituted nearly the two-thirds of a cylinder. The patient left the hospital quite well one month after his admission.

From that time until 1822, when I left Montpellier, adds M. Bouget, I have seen M. Delpech constantly have recourse to this plan of treatment, both at the hospital and in private practice, and always with success. I have also used it myself with advantage in a case of necrosis of the tibia in a child.

59. *Case of Hydrocephalus in which the fluid was withdrawn by an operation—death.*—The *Edinburgh Medical and Surgical Journal* for April, 1835, contains an interesting case of this description by Dr. S. S. ALISON. The subject of it was a boy five months of age, who had from the period of his birth inclined his head to one side, but appeared in perfect health in other respects, till he was two months old, when it was observed that his head was swollen, and more especially at certain spots: and he also became restless, had frequent fits of crying, rolling of the eyes, cough and emaciation. June 23, 1834—"The head, properly so called, is of enormous size, and sinks the small and emaciated face into striking insignificance. Its circumference is $20\frac{1}{2}$ inches, and a line drawn from ear to ear measures $12\frac{1}{2}$ inches. The parietal bones are far asunder, and between them on pressing, a sensation is felt as of water under the scalp, and the right side of the forehead is more prominent than the left.

The eyes appear to project more than usual; part of the sclerotic tunic of the upper surface of the balls is constantly visible, and the pupils are quite sensible to light. He takes little food, is almost constantly awake, and, from the increasing emaciation, and from the present rapid progress of the disease, it is obvious that death must soon be the result unless it be speedily checked.

To prevent all misapprehension, it may be mentioned, that fits, vomiting, and other symptoms that often attend *hydrocephalus* have at no period been observed.

Calomel and compound powder of jalap have been ordered in small doses; and the propriety of withdrawing the fluid by an operation, has been suggested to the parents, as the only measure in the present state of medicine that affords any chance of recovery.

24th. Bowels are open, and he appears altogether more at ease than for some time previous. Medicine to be continued.

26th. This day about 1 P.M. in presence of my partner, Mr. Cunningham, surgeon in Ormiston, and the friends of the child, the head was again measured, and found to correspond with the dimensions formerly given. The point of a small cylindrical trocar was then rested on the right side of the anterior fonta-

nelle, and gently introduced into the cavity of the head, in a direction obliquely forward and outward. When the trocar had penetrated about half an inch, water appeared at the canula, and the stilette was withdrawn, to give egress to the fluid, which immediately ran off in a stream with considerable force and rapidity. As the fluid escaped, the bones sunk under the hands, and the scalp, before tense, became loose and folded upon itself. The fluid was still flowing, though with less rapidity, when it was deemed prudent to close the wound, lest any bad effects should follow the sudden diminution of pressure on the brain. Adhesive plaster was applied over the wound, and the bones and scalp were retained firmly in their situation by a bandage and cap.

During the operation he did not cry much more than usual. He was laid in his cradle; quiet was enjoined; cow's milk, diluted with water, was ordered to constitute his diet; and wine and other spirituous liquors were prohibited.

10 P. M. He is reported to have been restless, and to have vomited a little, but he is free from fever, and has not been affected with fits and startings. Upon wine being again prohibited, occasion was taken to inquire if any had been given, when it was acknowledged by the mother that a small quantity had been administered "out of a cup," because, she added, he appeared faint.

27th. Since last report he has not been more restless than before the operation, and has not vomited, although a disposition to it has been observed. The eyes move freely, are certainly less prominent than before, and less of the sclerotic tunic is observable. The pulse is natural; the pupils sensible; the bowels are open, and the secretion of urine natural.

Upon measuring the fluid taken from the head, it amounted to nine ounces, two drachms, fluid measure, and, adding to that for what was lost during the operation, and what issued from the wound shortly afterwards, two ounces, which appears a moderate allowance, the whole fluid evacuated may be estimated at eleven ounces. The fluid is transparent and almost colourless, having only a slight green tint, scarcely observable.

28th, noon. He has been very quiet since last report, and has slept three hours during the night, a longer period of uninterrupted sleep than he has enjoyed since the commencement of the complaint. The eyes are bright, active, and sensible to light, pulse 120; skin cool and tongue moist; he has had three natural evacuations from the bowels; has taken greedily some milk and water; and coughs little. The bandages and pillows are wet with fluid which has issued from the wound, the amount of which it is difficult to specify; but five ounces must be a moderate computation. The head is much smaller than before the operation, and is very uneven on the surface with the folding of the scalp. Its dimensions were taken, but are lost.

29th, noon. At an early hour this morning he became very restless, vomited, cried much, and was affected with rigidity of one of the arms. The pulse is strong, and about 140; the tongue white and dry, and frequently protruded beyond the lips; and bowels continue open; swallows milk and water greedily, and sucks the nipple occasionally. No more water has issued from the head, and its dimensions are as follow:—circumference of head, 18 inches; from ear to ear over the crown of head, 11½ inches. The eyes move incessantly in the orbit, and the pupils are very sensible. A leech to be applied to the temple, and a blister to the *occiput*.

8 P. M. He continued very restless, tossed his arms and legs, and the tongue was protruded at short intervals till about 6 o'clock, when he became quiet. The eyes are less active, and the pupils contract upon exposure to the light; the pulse considerably quicker than at noon, and the bowels continue open.

30th. Soon after last report he again became restless; while the limbs were convulsed, and the tongue protruded. These symptoms continued to recur at short intervals till 4 A. M., when death took place.

July 1st. This day, in presence of my partner, Mr. Cunningham, the head was examined. It appeared about the same size as when last measured, and the same feeling of fluctuation that was experienced previous to the operation, was again felt. Previous to exposing the brain to view, an opening was made through the anterior *fontanelle* with the point of a scalpel, through which there immediately issued about ten ounces of fluid slightly tinged with blood. No trace of inflammatory action could be detected on the scalp in the vicinity of the wound, nor at

the corresponding parts of the brain and its membranes. In the lateral ventricle of the right side was found a small quantity, about half an ounce, of a white opaque fluid, and in the left fully more, and of a colour inclining to yellow, and altogether much resembling a mixture of purulent fluid and water, with albuminous flakes. The walls of the lateral ventricles were rather unusually soft, but, on the whole, did not present marks of great disorganization. The base of the brain presented no appreciable signs of disease, and the nerves proceeding therefrom appeared perfectly sound.

Feeling satisfied that my treatment of this case was justified by its circumstances, and that it was proper to make an attempt for the life of the patient, I publish the details to give a practical demonstration of my belief in the opinion, that it is not from the knowledge of successful events only, but also of the unsuccessful, that a right estimate is to be obtained of the value of our measures.

The operation was undertaken under the impression that the fluid was exterior to the brain; that the lateral ventricles were free from water; and that their walls, and, indeed, the whole cerebral mass, were very little, if at all, disorganized;—an opinion substantiated by the state of the parts on examination after death. It is in such a case, and in such only, that the evacuation of the fluid seems calculated to afford any chance of cure, and in which, therefore, it would be prudent to practise it. When there is merely a collection of fluid on the exterior of the brain, it appears as likely that recovery would follow its removal, as the evacuation of the water in the forms of hydrothorax, unconnected with organic disease, were it not for the greater delicacy and importance of the structures affected by the operation."

The principal danger from the operation is inflammation of the brain and its covering, and such inflammation was the cause of death in the case just related.

60. *Case of Bony Union of a Fracture of the Neck of the Femur within the Capsule, occurring in a young subject.* By EDWARD STANLEY, Esq.—A young man in his eighteenth year fell from the top of a loaded cart upon his right hip, the injury of which was attended by the following symptoms. He was wholly unable to move the limb, and suffered severe pain when it was moved by another person. The thigh was bent to a right angle with the pelvis, and could not by any means be extended. Abduction of the thigh was difficult. The limb was everted, at first slightly, afterwards in a greater degree. The soft parts around the hip joint were considerably swollen. There was no shortening of the limb, but rather the appearance of a lengthening of it in the erect posture, probably from the obliquity in the position of the pelvis. No crepitus could be felt in any movement of the limb.

The foregoing symptoms were not considered to indicate conclusively the existence either of dislocation or fracture. The age of the patient was unfavourable to the occurrence of a fracture of the neck of the thigh bone; the general opinion, therefore, of the several surgeons to whose judgment the case was submitted, favouring the belief of a dislocation into the foramen ovale, forcible extension of the limb was made by means of the pulleys, and the thigh then moved in several directions, by which the head of the bone might be replaced in its socket.

About two months after the accident, the patient was received into St. Bartholomew's Hospital. His health was now found to be much deranged. His pulse was frequent and hard. He complained of pain in the head, also in the injured hip, and down the opposite thigh. This illness was considered to be the effect of cold, but it did not yield to the treatment which was adopted. He remained nearly in the same state for about a month, and during this period, on account of the derangement of the health, no examination was made of the injured hip. At length, eruptions appeared generally over his body, which were considered to be small pox, and in two days afterwards he died.

In the examination of the body, no other morbid appearances were discovered besides those of the injured hip joint. The capsule of the joint was entire, but a little thickened. The ligamentum teres was uninjured. A line of fracture extended obliquely through the neck of the femur, and entirely within the capsule. The neck of the bone was shortened, and its head, in consequence, approximated to the trochanter major. The fractured surfaces were in the closest

apposition, and finally united nearly in their whole extent by bone. There was an irregular deposition of bone upon the neck of the femur, beneath its synovial and periosteal covering along the line of the fracture.

The foregoing case is remarkable from the occurrence of a fracture of the neck of the femur within the capsule at an early age, and it is, I believe, the only example of it on record. In the memoirs of the Academy of Surgery,* Sabatier has related the case of a boy aged 15, in whom, after a fall upon the hip, lameness ensued, and sometime afterwards, a shortening of the limb to the extent of three inches, with a projection of the trochanter major, and an inclination of the whole limb inwards. The patient recovered sufficiently well to be able to walk, but with a considerable restraint in the movements of the thigh. Here it may be presumed a fracture had occurred, but it is certain that the seat of it could not have been within the capsule of the hip joint, from the great extent of the shortening of the limb.

It will be remarked, that in the instance now recorded, notwithstanding the free and repeated examinations of the limb, and the forcible extension of it by the pulleys, in short, with every circumstance, except the age of the patient, unfavourable for a bony union of the fracture, this had been nearly completed. If this case had occurred at an advanced period of life, we may be certain that there would have been but a very imperfect union of the fracture, and it shews satisfactorily, that in the ordinary cases of fracture of the neck of the femur within the capsule, the age of the patient and consequent deficiency of vascular action, especially in the separated head of the bone, is the most influential of the causes to which the failure of a bony union has been in general ascribed.—*Medico-Chirurg. Transactions*, vol. xviii.

61. *New Operation for the Cure of the Caries.*—At the fifth meeting of the British Association for the Advancement of Science held at Dublin, Surgeon WHATTON, of Manchester, communicated to the Medical Section a new operation practised by him for the cure of caries, or injury of the bones of the foot requiring amputation, which consisted of a removal of the lateral half of the foot, leaving the other half to serve as a proper support in walking. He said, that as far back as 1811, during the Peninsular war, his attention had been drawn to this subject. At that time, when the bones and soft parts of the foot were injured by balls or fragments of shells, the usual practice was to amputate transversely, either at the tarso-metatarsal union, or higher up at the astragulo-scaploid and calcaneo-cuboideal. Since he had been appointed to the infirmary at Manchester, he adopted a different mode of operating, which was attended with very superior advantages. He had adopted this plan after a careful study of the relative anatomy of the foot, and was not aware that there was any such operation on record. He tried the operation in a great number of cases, and found it to answer extremely well; of this he hoped he should be able to convince the meeting, as he had an opportunity of showing a patient on whom the operation had been performed, and who was able to walk twenty miles a day. Finding that all ordinary modes of treatment had proved ineffectual, Mr. Whatton decided on the longitudinal operation, which was performed in the following manner. An incision, commencing at the root of the fourth toe, was carried, in a slightly curved direction, towards the extremity of the fifth metatarsal bone, and terminated near the outer malleolus. This incision was made on the plantar surface of the foot. A similar incision, commencing and terminating at the same points, was carried along the dorsum. The flaps being dissected off, the knife was carried between the two outer metatarsal bones, down to the cuboid. The outer edge of the os calcis, being found diseased, was also pared off with the scalpel. The second incision removed the next toe and its metatarsal bone in a similar manner, leaving three toes with their corresponding tarsal bones. There was considerable hæmorrhage after the operation, and it was thought advisable to defer dressing the foot, until the patient was placed in bed. The wounds healed kindly, and the man was discharged about twelve weeks after the operation, perfectly well. A cast of the foot was taken ten months after the operation; this shews some fulness about the teguments of the tarsus and metatarsus; but in a

cast taken twenty months after the operation, a manifest improvement is visible. Mr. Whatton here exhibited the casts, which he stated he should feel great pleasure in presenting to the Royal College of Surgeons of Dublin. The patient operated on was exhibited to the meeting. He walked up and down, with as much ease as a person who had the perfect use of his limbs; and on being required to stand on the leg, singly, he made the attempt in such a manner as to show that he possessed a considerable power of balancing himself. Mr. W. stated, that it was his intention to follow up the subject, and bring it again before the Section.

MIDWIFERY.

62. *Bilobed Uterus*.—An interesting example of this is recorded by M. LE ROI, of Versailles, in the *Journal des Connaissances Med. Chirurg.*, for February, 1835. It occurred in a young woman, nineteen years of age, who had been regular for the first time two years previously, and some months subsequent to this event had been married. Six months previously to her having been seen by M. Le Roi, she commenced to complain of severe pains in the uterine region, which became more intense during the menstrual period, and then diminished; but to return again with more violence at the monthly periods. The menses were never abundant. M. L. saw her for the first time on the 1st of May, 1834: she stated that the menses had been flowing for three days; and during this period that the pain had been so intense as to compel her to keep her bed, and that an upright position, and efforts to pass urine and feces, were productive of indescribable agony. On examination per vaginam, there was found, about an inch from the commencement of this canal, and towards its anterior part and right side, a renitent tumour, which almost filled the cavity of the pelvis, and which at first might have been mistaken for the uterus at the commencement of labour. On examining the abdomen, this tumour was found to extend to the umbilicus, and perfectly to resemble the uterus at the sixth month of utero-gestation. It was readily ascertained that this tumour contained a fluid. The pains which were most violent at the menstrual periods, and the tumour augmenting at these epochs, induced L. to suspect for an instant that the tumour was caused by retention of the menses in the uterus. But the periodical flow of this evacuation seemed to forbid such an idea. Finally, he supposed it to be an encysted tumour between the bladder and uterus; but its precise nature could not be certainly decided upon. The patient being desirous at all hazards to be relieved of her pain, on the 15th of May a trochar was plunged into the tumour, and the opening enlarged with a bistoury, when about three wash-basins of a fluid of a chocolate colour, syrupy consistence, and inodorous, was discharged. The first four days after the operation the patient did well, and was entirely relieved of her pain, but on the fourth day peritonitis set in, which speedily proved fatal, notwithstanding the most active treatment.

On post mortem examination it was found that the uterus was bilobed; the left lobe communicating with the vagina, the right forming a cavity with no external communication. The nature of the case was now manifest. The menstrual fluid furnished by the left cornua of the uterus had a ready outlet, whilst that furnished by the right cornua had accumulated in the cavity of the part, and formed the tumour which had given the patient so much distress.

63. *Rupture of the Fallopian Tube—Hæmorrhage—Death*.—An interesting instance of this is recorded by W. ORD, Esq., in *Ryan's London Medical and Surgical Journal*, for 11th October, 1834. The subject of it was a woman twenty-eight years of age, who had had one child, which was two years of age at the mother's death. This woman sent for Mr. Ord, in consequence of an attack of pain in the loins and lower part of her abdomen, accompanied with sickness. She stated her menses had disappeared ten weeks previously, and that she considered herself pregnant. Mr. O. ord red a dose of oil, which relieved her symptoms for the time. Three days subsequently she was attacked with alarming symptoms, as cold sweat, exhaustion, small weak pulse, restlessness of manner, pale, cadaverous countenance, &c. She gradually sank and expired. On dissec-

tion from ten to twelve pounds of blood, a small portion of which was coagulated, were found in the pelvis and abdomen; the uterus was enlarged and flabby; the surrounding viscera healthy. The fallopian tube on the left side was ruptured, an inch and a half of it, at its centre, or equi-distant between its fimbriated extremity and the uterus, was about the size of a hen's egg. The fœtus floated in the blood divested of its membranes, but they still remained attached to the umbilical chord: there was little of decidua, but the chorion was well developed: the fallopian tube was not pervious from the fimbriated to the point of laceration, but from the latter to the uterus would admit a horse hair. The right ovary was sound, and the cervix uteri was filled with a gelatinous substance, as is usual in cases of pregnancy.

64. *Ovarian Dropsy with Labour.*—An interesting case of this is recorded by Mr. J. LANGLEY, in *Ryan's London Medical and Surgical Journal*, for 4th October, 1831. The subject of it was a lady whose enormous size induced her professional attendant to suspect that she was pregnant with twins. Upon visiting her, Mr. Langley found her, he states, "suffering very severe pain, which was not characterized by the usual remission upon the subsidence of uterine contraction. I passed my hand over the abdomen, and found it excessively distended, with a peculiar irregularity of surface. Her chagrin upon the visit of a stranger was manifested by extreme agitation; I had great difficulty in obtaining permission to examine per vaginam, which accomplished, gave me the assurance of there being a large tumour extra uterine, passing laterally down the right side of the uterus, and heading that organ, so as to simulate the descending membranes in their tumid state, antecedent to their rupture in a natural labour. The uterus was pushed by this tumour out of the median line to the left side, and I had some difficulty in gaining the os uteri. From the impediment this tumour presented, and the aversion of my patient, I could not ascertain the presentation correctly, with the exception of the negative information, that it was not the head. I waited the issue of several pains, for although there was no cessation of suffering, it was marked by periodical exacerbation, and the only difference I found was the increasing bulk of this tumour, evidently interrupting and obstructing the parturient process. I finally determined to puncture it, and stealthily evacuate its contents, and was just in the act of passing my scissors as a perforator, when it spontaneously ruptured, discharging in a cataract torrent several gallons of fluid of a serous nature, deluging the patient, bed, and floor: at this moment I felt considerable anxiety, fearing fatal syncope, from the sudden removal of pressure from the neighbouring blood-vessels. As quickly as possible I bandaged the abdomen: from a state of severe suffering my patient was perfectly free from pain; I gave her a stimulant, appeased her fears, and allowed her to remain undisturbed until the accession of pain, which occurred in about half an hour, when I renewed my vaginal examination, and found the membranes protruding the os uteri, which was considerably dilated, and favourably dilating; to add to this already untoward and perplexing case, I discovered the abdomen presenting, just at the insertion of the funis, the favourable state of uterus, and resistless condition of all the parts, from the continued distension they had suffered, induced me to rupture the membranes, and pass my hand in utero, which I did with little difficulty, and found the feet doubled posteriorly upon the thighs; I hooked my fingers in the hams, brought down the legs and feet, and delivered with great facility: at the moment I was surprised at the ease with which the head followed the superior extremities and shoulders, the obvious reason of which soon discovered itself, for, upon examining the fœtus, I found that the greater portions of the bones composing the convexity of the cranial hemisphere were wanting, and that the compressed brain was covered by a semi-osseous plane, the superciliary ridges were firmly ossified and unusually prominent, the superior portions of the parietal and temporal bones were deficient, and the whole cranial arch wanting, as though a section had been made, commencing immediately above the orbital process, and carried horizontally backward as low as the transverse ridge of the occipital bone, precisely in like manner, and nearly with as much precision, as is customary in removing the cranium preparatory to an autopsy of the brain.

In support of my opinion as to the probable cause of the aberration of nature,

it will be necessary to describe the situation of the fœtus in utero, which was lying transversely, the vertex to the right opposed to this extensive tumour, which I am inclined to believe was the cause of preventing the natural ossific deposition of the vessels under the influence of its pressure, or of promoting its absorption, before solidification could be effected of the newly formed structure contiguously situated; a strong corroboration of which conjecture I think exists in the circumstance of the fœtus being fully and finely developed in every other respect, and the basis of the defective bones, which were not within the sphere of action of this compressing tumour, being of a naturally firm and dense structure.

It appears to me that, had the diagnosis of this case been earlier made perfect by the usual mode generally available to the ascertaining diseases of the uterus and its appendages, some appropriate treatment might have been suggested to reduce this ovarian cyst before it had made, by its great bulk, such mischievous pressure upon the uterus and its contents, and probably have saved the life of the fœtus, independent of the advantage resulting to the parent, in taking from the proximate vessels and organs the pressure produced by the presence of such a tumour.

65. *Case of morbid adhesion of the Placenta.*—The *Medical Quarterly Review* for July last, contains the following interesting example of this, communicated by Dr. LITCHFIELD.

"Mary Farrell, ætat 32, was attended in her first confinement by Mr. Barry, of Judd street, Brunswick-square, in March last.

"The labour, as described by Mr. Barry, was very lingering, the pains slight, and at long intervals. Sixteen hours after the commencement of labour, the accoucheur in attendance administered half a drachm of the powdered ergot of rye, and this dose was repeated every two hours; at the expiration of twenty-four hours, a dead child was expelled, and the uterus contracted forcibly round the placenta, so as to baffle the repeated efforts of the accoucheur to remove it.

"On the morning of the 12th of March, eighteen hours after the delivery of the patient, I was requested to see her in consultation. The uterus was found, upon examination, high up beneath the adominal parietes, and contracted at its fundus into a hard and irregular tumour. The external parts of generation were swollen and painful, and the os uteri so rigid and unyielding as to resist the persevering efforts of the hand to dilate it and reach the placenta.

"The pulse at this period was full, hard, and at ninety-five; the tongue furred and feverish, the face flushed, and the patient complained of severe pain in the head; to relieve these symptoms, and lessen the force of the muscular contractions, I ordered ten ounces of blood to be taken from the arm, and prescribed small repeated doses of tartarized antimony; fomentations with flannels were also applied freely to the swollen pudenda; under this treatment the violence of the symptoms subsided, and fresh and long-continued, but unsuccessful attempts were again made, to dilate the os uteri, and detach the placenta.

"During the latter months of pregnancy the patient had complained of fixed pain in the womb, arising, as she believed, from a blow in the abdomen; it seemed probable, under these circumstances, that the vessels of the uterine structure being stimulated to undue action, had thrown out coagulable lymph, by which the placental and uterine surfaces had become morbidly united. Being of opinion that it would be impossible, in the present state of the parts, to reach and overcome this adhesion, and having no fear of immediate hæmorrhage, I resolved to wait, and watch closely both the local and constitutional symptoms, abstaining for the present from further manual interference.

"In this way the case continued to progress until the fourth day, the patient remaining in a very satisfactory state. On the fourth day after delivery the discharge, which had set in as usual, became more copious in quantity, of a green colour, and very offensive smell; this last character was in some degree corrected by the use of injections of chloride of soda, and the patient went on, without any unfavourable symptom, till the ninth day, when a portion of the placental mass, equal to about one-third of its usual weight, was thrown off in a state of putridity. From this period, small portions of the placenta continued to detach themselves at intervals, until the twenty-first day, when all that remained of the adherent structure was thrown off.

"The progress of the case was unattended with pain or hæmorrhage; the patient improved rapidly during the time in spirits, strength, and appetite, and at the end of a month from her delivery, menstruated in a regular way. Strong cartilaginous bands were found in the placental mass."—*London Med. and Surg. Journal*, 11 July, 1835.

66. *Fetus Putrified in the Uterus*.—The two following examples of this were communicated to the Academy of Medicine, at their meeting of the 7th March, 1835, by Dr. VASSAL.

CASE I.—A woman, 25 years of age, enjoying good health, the mother of several children, menstruated on the 7th of November, the discharge less abundant and more serous than usual. From this period she had indefinable malaise, with frequent rigors during the day; uncomfortable heat at night; often after dinner distension of the abdomen, which compelled her to keep her bed. She rapidly lost flesh. In December and January return of the menses with the same character as in November. The 6th February, a slight fall upon her seat, the day after which was her menstrual period, sanguinolent discharge which continued three days. Her health declined more and more, notwithstanding that her appetite continued voracious. The 1st of March, after a ride on horseback, there was a discharge per vaginam of about a palet of blood, followed by fainting.

At this period the emaciation was excessive, the pulse febrile, the tongue pale, suburral; the skin yellow, dry and warm; right hypochondriac region distended resonant; uterus projecting beyond the superior straight; sensible to pressure. Dr. Vassal inferred from his examination, that there existed a chronic metropéritonitis, and that the uterus contained some foreign body, fœtus, mole, or hydatids. The persistence of the menses, the development of the mammæ, [?] banished all idea of pregnancy. Repose—milk—emollient drinks, cataplasms to the abdomen.

For several subsequent days, and sometimes twice during the twenty-four hours, there was a febrile paroxysm, characterized by a cold stage, with rigors, chattering of the teeth, icy coldness of the whole body, appearance deathly, pulse scarcely perceptible; afterwards a hot stage, quickly followed by abundant sweat. Warm sweetened water with orange flower water, given during the cold stage, contributed much to shorten this period.

The 5th, during the existence of these febrile phenomena, there occurred a flow per vaginam, of a blackish pitehy fluid, of insupportable fetor. An examination per vaginam, showed that the uterus had descended into the pelvis, and that it was larger than in a state of vacuity; however, there was nothing unusual in the os tincæ, and there were no uterine pains.

The 7th, on the decline of the usual febrile paroxysms, evacuation less serous and less foetid; discharge per vaginam of several membranous shreds, and of a large quantity of encephaloid and bloody matter; a perfect calm succeeded this evacuation, and at midnight the patient expelled, without effort or pain, a fleshy mass, which was followed by a copious loss of blood and violent contractions of the uterus, which extorted screams from the patient.

The 8th, at 5, a. m. face pale and expressive of terror, eyes prominent and haggard; extremities cold, pulse slow, small and contracted. The patient thought that her uterus had passed out of the vagina. The vulva was, in fact, enormously distended, but by the superior portion of a black, homogeneous coagulum, the size of an adult's head. A second clot of less size, occupied the entrance of the vagina, filled besides by a placenta equal in size to that ordinarily observed at the eighth month of gestation, but not having undergone any alteration of colour or density, only it had no umbilical cord. Its extraction was followed by lypothymia, with yellowness of skin, which ceased on some cold water being sprinkled on the face.

The health and embonpoint of the patient was speedily restored by a tonic and analeptic regimen.

The fleshy mass which had been expelled was a fœtus apparently of three months, although the series of symptoms indicated four months of gestation having passed. All the integuments and the subcutaneous cellular tissue were completely dissolved; the muscles were of a reddish-brown, soft, and easily breakable by the fingers, and adhered to the bones only by their tendinous extremities. The bones of the limbs were entirely denuded, the face was stripped of soft parts, the

anterior fontanel largely open, the cranium without cerebral matter. The frontal bone was flattened, and had a vertical direction. Its superior part was separated from the parietal bones; and, as well as the antero-superior angles of the latter, was of a grayish appearance, and dry, as if these portions of bone had been long exposed to the air. The abdomen was open, and there was no digestive canal.

Dr. Vassal inquires what may have been the cause of death of the fœtus, and at what period did it occur. He thinks it attributable to a sub-acute metritis pre-existing to conception, rather than to the slight fall the patient had, and which had caused a partial detachment of the placenta, loss of blood, pains in the loins, &c. The metritis, he thinks, acted by causing a hypertrophy of the uterine parietes, which produced resistance to the distension necessary for the development of the fœtus and abortion. As to the putrefaction, ought it to be explained by the fall which may have produced the rupture of the membranes, and permitted the introduction of air? But the fœtid discharge commenced two days previous to the fall; and, moreover, the presence of air Dr. V. does not consider indispensable to the development of putrefaction. Dr. V. believes that it may be attributed to an intense phlegmasia, which attacked the whole cutaneous system and the umbilical cord, and terminated in gangrene. He relates the following case in support of this opinion.

CASE II.—A robust woman, nineteen years of age, became pregnant for the first time in the commencement of 1806. She continued well until the end of the fifth month, when she experienced an indefinable malaise, became sad, had longings, often rigors and heats, flushings of the face, headache, &c. She was repeatedly bled. Finally she went her full period, and labour commenced. But on the rupture of the membranes there was discharged a pitchy, blackish fluid, of such a fetid odour that it was necessary to open all the windows. The labour was, however, short and easy; but the child, which was of the ordinary size, was deficient in the right arm. There was a circular cicatrix at the scapulo-humeral articulation. The mother attributed this phenomenon to having met a beggar who had but one arm. But M. Vassal, on examining with care the coagula which covered the bed, found the humerus, the radius, and the ulna, which he sent at the time to M. Chaussier.

As to the phenomena observed in the mother in the first case, Dr. Vassal thinks that they were not the effect of absorption of miasms by the internal face of the uterus, as in the case of putrefaction of the placenta. The integrity of this last body and of the membranes, appears to him an insurmountable obstacle to the absorbent action. He is tempted to regard the putrefaction of the placenta as much more dangerous to the mother than that of the fœtus; and abortion in this last case is, in his opinion, the result probably of the modifications caused in the innervation of the uterus by the presence of a putrid fœtus; modifications manifested over the whole system by the sadness and prostration of the mother. Tomassini has professed an entirely analogous theory.—*Revue Méd.*, April, 1835.

MEDICAL JURISPRUDENCE.

67. *On the effects of Poisons on the Animal System.*—A report from Dr. Roupell was read at the Dublin Meeting of the British Association, the object of which was to shew the effects produced by poisons introduced into the circulatory system, and the affinity they appear to exercise for the component elements of different parts of the body. Several plates were exhibited, illustrating the results.

Plate 1 represented the stomach and intestinal canal of a dog, poisoned by *arsenic*. An ounce of the saturated solution of arsenic, made by boiling arsenious acid, and allowing it to cool, was injected into the femoral vein of a dog. In three minutes afterwards, the animal became sick, and made an attempt to vomit; his breathing also became very much hurried. In ten minutes more, great intestinal movements appeared to be going on, and the abdominal muscles were forcibly contracted; in twenty-five, vomiting took place, followed by paralysis of the hind legs; in thirty-five the animal died. The body, when examined shortly afterwards, was found rigid, the blood fluid, the lungs stuffed with mucous, but not inflamed.

The peritoneum was rough, and had lost its shining appearance; the stomach presented the hour-glass contraction, and was found to contain an ounce of tough mucus. The great end was much inflamed, the lesser differed very little from its healthy state. The large intestine was free from disease, and contained solid faecal matter. The chief alteration was in the small intestine, which was extensively inflamed, and covered with a layer of tough mucus, tinged with blood. There was no change in the mucous membrane of the trachea or bronchi; or in the lining of the heart, veins, or arteries. The chief points of interest connected with this experiment are the absence of inflammation in those parts with which the poison came in contact, and the circumstance of its being restricted, almost exclusively, to the intestinal canal.

Plate 2 represented the stomach of another dog, poisoned in the same way. The subject of this experiment was a strong animal, and the solution of arsenic which was employed had been filtered. The same quantity, however, was administered as in the former case, and the poison was injected into the femoral vein. Shortly after the operation, vomiting took place; in twelve minutes solid faeces were passed from the bowels, followed by tenesmus. In 35 minutes, vomiting, cramps, and dysenteric symptoms occurred, which continued with more or less severity, and in about two hours the animal died. The lungs were injected, but not inflamed. The stomach and intestines were universally inflamed; the former contained about four ounces of frothy mucus, the latter, throughout its entire length, a bloody secretion. The mucous membranes of the rest of the body were redder than natural, but no change could be detected in the lining membrane of the venous or arterial systems. In this instance, the longer interval between the injection of the poison and the death of the animal gave time for a greater extension of inflammation.

Several experiments were made with smaller quantities of the arsenical solution, but without any fatal result. Half an ounce, thrown into the femoral vein of a strong dog, appeared to produce but little inconvenience. Half an ounce of the *liquor hydrargyri oxy-muriatis* was injected into the veins without producing any appreciable result. An ounce (which contains half a grain of the corrosive sublimate) produced dysentery and considerable distress, but not death.

The next trials were made with *tartar emetic*; the preparation employed was the *vinum antimonialis*. An ounce of this was thrown into the saphena vein of an active terrier. The first and almost immediate effect of this was to produce symptoms resembling intoxication,—a circumstance which may be attributed to the quantity of alcohol contained in the preparation employed. The animal was able to stand and run, but reeled about and tottered in his gait. On being visited some hours afterwards, it was found dead; from the appearance of its jaws, vomiting seemed to have taken place. The brain was found natural in appearance, and the intestinal canal presented nothing different from the normal state; the chief alteration appeared to have occurred in the stomach, which exhibited signs of intense vascularity, particularly at its greater end.

Several other experiments were made, but of less interest: when a solution of a metal in strong acid was employed for the purposes of injection, death took place rapidly, and the mucous membrane presented a marked red appearance. Dr. Roupell had been able to satisfy himself as to how far such changes in the intestinal canal are to be attributed to the compound, or to the effect of the simple acid, which in itself would coagulate the blood, or greatly predispose to that condition. The injection of a solution of *kreosote*, a substance which appears to possess the greatest power in this way, has no influence on the intestinal canal. A drachm of this substance, mixed with water, produces no effect; but when injected pure, death has been the result. The appearances seen on dissection in this case, were confined to the lungs, which were black and gorged with blood that appeared to consist of minute granules, mixed with a fluid of inky blackness.

Dr. Roupell concludes, that any attempts at explaining the effects of the foregoing experiments, must, in the present state of animal chemistry, be merely conjectural. How far poisonous substances prove irritant by their chemical agency, or by exciting in certain parts the peculiar susceptibility to inflammatory action, it is not easy to determine, but it must be admitted that something more than mere contact is required in those cases where irritants applied to the surface, or thrown into the veins, provoke inflammation of the intestinal canal. Whether it be, that the system is on its guard against those substances which tend to increase the

coagulation of blood, must be made a matter for future investigation; but certain it is, that substances endowed with this property seem to have a great tendency to excite the inflammatory condition. It is a curious fact also, as connected with this point, that the coagulation of the blood becomes diminished under such circumstances, or in other words, that coagulation goes on more slowly in an inflamed state of the blood.—*Dublin Journal of Medical and Chemical Science*, Sept. 1835.

68. *Case of Poisoning with Arsenic*.—Dr. J. A. SYMONDS has recorded in the 3d vol. of the *Transactions of the Provincial Medical and Surgical Association*, a most interesting account of the examination and appearances of a corpse fourteen months after death, and of the detection of poisoning by arsenic. The subject of this case was a Mrs. Clara Ann Smith, deceased, who had been interred on the 28th Oct. 1833, and whose relatives having had reason to suspect that her death had been caused by poison, procured an order for the exhumation of the body. This order was executed with the proper precautions, on the 24th Dec. 1834, that is about fourteen months from the period of burial. Dr. Riley, Messrs. Kelton and Herapath, and Dr. Symonds were officially engaged; the two first to conduct the autopsy, the third named to receive the stomach and intestines, with their contents, for chemical examination, and the last mentioned gentleman to witness the proceedings.

"The grave was situated upon the south side of the church, and was about six feet in depth. The soil was a rich and somewhat humid mould, consisting of the red loam which generally covers the new red sand-stone in this district, mixed with a large proportion of organic matter. There was no water in the grave. The coffin, having been raised by ropes, was placed upon a flat tomb stone hard by, as there was no convenient room in the neighbourhood for making the examination: a circumstance which we should have less regretted had the weather been less inclement. The thermometer stood at two or three degrees below the freezing point. The wood was elm, about two-thirds of an inch in thickness, and bore no marks of decay; but there was a split along the middle of the lid for more than three-quarters of its length: an accident which, I am informed, very commonly takes place, from the weight of the superincumbent earth. The screws having been removed without difficulty, the removal of the lid exposed a corpse invested with a common shroud. A considerable quantity of dark-coloured water, which, doubtless had entered by the fissure in the lid, was found collected at the bottom of the coffin, and was in contact with the back of the trunk and head of the corpse, to which parts it was then confined by the inclination of the stone on which the coffin was resting. The flannel lining of the coffin, where it was visible, was quite entire. The shroud, likewise, presented no hole or rent in the upper part, but gave way very readily when pulled; and the shift under the shroud was also in a state of integrity, though softened. Both these coverings had a soddened appearance. A quantity of fine mould lay upon the shroud along the chest and abdomen, having evidently fallen in through the rift in the lid. The head was covered with the remains of a cap, perfect anteriorly, but much decayed where it had been in contact with the water. The face of the corpse was shrunken, and of a dingy yellow colour; the nose depressed; the orbits sunk; the cheeks collapsed and wrinkled; and the mouth looked as if open, in consequence of the retraction of the lips. The appearance, on the whole, was not very unlike what would be presented by a wet bladder strained over a skull. The integuments of the trunk had a dull white aspect. The abdomen was considerably flattened, but the thorax had maintained its usual convexity. An incision was made on each side, through the integuments and cartilages of the chest, and continued through the abdominal parietes, and the flap was turned down over the pubes.

"*Abdomen*.—The state of the alimentary tube excited the surprise of the bystanders, by its remarkable degree of preservation; every part being almost as distinct as if the inspection had been made at a very short period after death. The peritoneum was smooth, but rather less glistening than usual, and of a duller white. The intestinal canal appeared to contain neither fluid nor gas, and some of the convolutions were matted together. The omentum was firmer than in a recent body. The liver was shrunken to a fourth or fifth of its volume, and was of a very dark colour. The spleen was black, pretty firm, and, when cut into, stained the fingers with a sooty matter. The pancreas had lost considerably in

bulk, but it had gained in consistence. Beneath it was found the splenic vein of usual firmness, and of a deep claret hue in its inner membrane.

Dr. Riley removed the stomach, with the lower portion of the œsophagus, the duodenum, the small and the large intestines, in separate portions; the rectum was taken out attached to the uterus and ovaries. On cutting the duodenum, a bright yellow substance escaped, but in very small quantity: the divided end being carefully compressed by Mr. Kelson's fingers. The parts thus separated were placed in clean vessels, and committed to the charge of Mr. Herapath.

Thorax.—The diaphragm was entire, firm, and, in its muscular part, of a darker tint than ordinary. The pleuræ had undergone no visible change; but the left contained a few ounces of very dark red fluid. The viscera were extremely collapsed, and lay at the bottom of the cavity, from which, together with the smooth and shining appearance of the pleuræ, it was inferred that there had been no adhesions during life. The heart was so shrunk and flattened, that it had been accidentally cut across in the process of removing the œsophagus; its lining membrane had a reddish brown colour, having evidently been dyed by a fluid of the same tint which was contained in its cavities.

The head was removed by a section between the third and fourth cervical vertebra, in case it might be required for identifying the individual by the teeth. The hair was of moderate length, brown and gray. The scalp peeled off very readily, as well as all the soft parts of the face, being converted into a thick saponaceous matter. The same adipocirous condition existed in the external parts of the neck. The soft parts of the fauces, and the pharynx with its neighbouring tissues, were greatly decomposed, being soft, in some parts semi-fluid, and of a dirty ash colour. The vertebrae were held together by their ligaments, pretty firmly, but the temporo-maxillary articulation was very loose.*—"The extremities were white, firm, and rather plump. This condition resulted, apparently, from the partial conversion of the skin and subcutaneous cellular tissue into adipocire.* On cutting out a portion from the anterior surface of the thigh, I found the muscles beneath, claret-coloured, fibrous, and rather soft. The aponeuroses and tendons were strong and shining, and apparently quite unaltered. The capsular ligament of the knee-joint was smooth and moist, except on the posterior surface of the patella. This bone was bare on the anterior surface, the integuments in this part having been destroyed, a circumstance which I attributed to the absence of adipose tissue in this part, and the consequent deficiency of the elements for margaric and elaic acids. The hair on the labia pudendi had not fallen off. The nails of the hands were firm, but those on the toes were very loose; and the saponaceous matter at the soles of the feet seemed but imperfectly formed. The epidermis had, in this part, separated, and adhered to the corresponding part of the stockings. The adipocire on the thorax was very thin, and more dry and cheesy than on the limbs: the anterior abdominal parietes consisted of little else, if we except a thin reddish layer of muscle, and the peritoneum. The cartilages of the ribs were soft, but quite elastic: they were very readily detached from their sternal connexions. I removed the base of the heart, with portions of the great vessels. These were not only firm, but even more rigid than ordinary, and were chocolate-coloured on their inner surface. I also cut through the root of the left lung, and brought away about a third, attached to the above mentioned parts. The pulmonary parenchyma had lost its cellular structure, and was very soft."

The stomach cut open along the lesser curvature, by Mr. Herapath, presented a very striking appearance. "A thick and bright yellow coating, like paint, lay on the mucous membrane, particularly over the pyloric third: but it extended, more or less, with some small interjections of unstained membrane, to within two or three inches of the great cul-de-sac. A portion of this yellow matter was dried, then mixed with a little charcoal and carbonate of soda, and put into a reducing tube, and heated. A metallic silvery-looking crust, characteristic of arsenic, soon made its appearance in the upper part of the tube. Mr. Herapath, by heating this crust, in contact with atmospheric air, converted it into crystals of arsenious acid, which yielded the usual precipitates to ammoniacal

* On examining the specimen which I brought away with me more minutely than was possible in the church-yard, I found that the skin had undergone very little change beyond that of condensation, excepting, also, that it was greasy to the touch; and that the cellular tissue beneath, though approaching in character to adipocire, was by no means so saponaceous as the substance on the face.

nitrate of silver, ammoniacal sulphate of copper, and sulphuretted hydrogen." This series of tests was repeated five times. Mr. H. subsequently treated some mixed yellow-tinged matter, washed from the stomach, amounting to seventeen grains, in the following manner: thirteen grains were boiled in nitro-muriatic acid, which decomposed the animal matter, dissolved the phosphates and the arsenic, and converted the sulphur into sulphuric acid. Ammonia having been added in sufficient quantity to supersaturate this acid, the mixture was acidulated with acetic acid, and filtered. A stream of sulphuretted hydrogen, passed into it, precipitated four grains of sulphuret of arsenic. Mr. H. stated, in his evidence, that the remaining four grains, out of the seventeen grains of mixed substance, would have yielded another grain of orpiment.

*"Appearances of the stomach and intestines after ablution.—Mucous surface.—*In the cardiac extremity the colour was dull red, or chocolate, diffused and uniform. There was no appearance either of distinct, injected vessels, or of red points. The texture was of the usual degree of firmness, neither softened nor indurated; and exhibiting nothing like hypertrophy and thickness on the one hand, or tenuity on the other; it was not in the least corrugated. The middle portion presented several indelible yellow stains, of indeterminate form; but in the pyloric third there were two remarkable patches, one about the size of the cut surface of a pigeon's egg, divided in its longitudinal diameter; the other somewhat smaller. Both of these spots had a well defined margin, and were equally visible on the serous surface. The mucous surface, examined carefully through a lens, was observed to be perfectly entire, so that the very tissue was infiltrated with the colouring matter. Here and there small spots on the disc appeared rough to the naked eye, and simulated abrasion; but, on more minute inspection, this appearance was found to result from the membrane being, in those places, more particularly loaded with the matter alluded to. The same remark applies equally to all the other yellow patches on the villous coat, both of the stomach and intestines. In those portions of the pyloric half of the stomach, which were free from the pigment, there was a dark gray appearance, almost approaching to black; but no inequality of surface, or interruption of continuity, could be discovered. Elevations from hypertrophied glands, or from extravasations, were anxiously looked for, but without effect. The lining of the pylorus was of a light gray or ashy colour, and had nothing else at all worthy of notice. The same may be said of the first two inches of the duodenum; but lower down this bowel presented a dark stain, similar to that in the stomach, above described. In the portion that lies in contact with the pancreas there was a large yellow stain, the size of a dollar, across which an incision had been made in removing the part. About the commencement of the jejunum was another, the size of a shilling. The valvulæ conniventes were perfectly distinct, and in this spot infiltrated with the yellow substance; notwithstanding which they floated freely in liquid. In this intestine, the villous membrane was of a faint red, but became quite pale in the ilium, which offered nothing remarkable.

In each of the parts described, the mucous membrane was sufficiently tenacious to be lifted by the forceps, in as large flakes as usual.

In the cæcum and colon, an ash-gray colour was noticed, differing more in degree, than in kind, from the dark stain in the pyloric portion of the stomach. The tissue was smooth, of its usual tenacity, presented no enlarged follicles or glands, was free from ulceration, and sufficiently transparent to render the sub-mucous cellular membrane perceptible. The appearance of the latter tissue was peculiar; as seen through the mucous membrane, it gave me the idea of albumen coagulated in lines that intersected each other, and leaving distinct areolæ between them: the lines were of a dull pinkish colour. The ilio-cæcal valve was, if any thing, somewhat more developed than usual. The hue of the villous coat of the rectum approached more to a chocolate or slate colour, and was mottled with white spots of a circular form, depressed below the level of the surrounding membrane. Whether these depressions were owing to a loss of substance, or to the elevation of the rest of the tissue, was not easy to be determined; certainly they did not present the defined margins common to ulcers in this part. In my examination of the gray colour of the colon, I noticed that the stain was communicated to the white board on which the part was lying, and was very similar to that of soot diffused in water.

Serous surface.—The most remarkable appearance on the outer surface of the stomach, if we except the yellow patches already mentioned, was a black diffused stain, of irregular form, over the superior and anterior surface of the pyloric half, or that portion of the viscus which usually lies immediately under the left lobe of the liver. It corresponded, in its deepest part, with the dark stain in the anterior. The colour was deepest at the circumference; and the general aspect was as if the viscus had lain in contact with some colouring liquid. The dark hue of the mucous lining of the duodenum, was likewise found to correspond with a similar coloration of the serous coat. In the part which was situated under the liver, I fancied that I could detect a similar correspondence between the colour of the serous covering of the colon, and that of its internal membrane, particularly in the ascending portion. The mesentery was firm and healthy, and matted in a few of its convolutions. Some opaque white patches, however, were noticed, which, probably, originated in enlarged or otherwise altered glands. It presented one or two slight yellow stains, which must necessarily have been acquired by imbibition. I noticed a similar appearance on the serous covering of the ilium, but the colouring matter had not transuded to the villous coat. In the meso-colon, also, there was one very bright yellow spot of circular form.

The appendices epiploicæ were perfectly distinct, but shrunken, hard, and somewhat cheesy.

The odour of all the parts above described, was *sui generis*, removed equally from their smell when examined in a fresh body, and from that of putrefaction. It was remarkably persistent: I never had more trouble in getting my hands and clothes free from it; and the same observation was made by others.

The uterus and ovaries were very small; the latter barely distinguishable. The mucous lining of the vagina, and the os tincæ, were perfectly natural.

Contents of the cranium, &c.—I examined the head in the presence of Dr. Dick and Mr. Kelton, at the institution, on the morning of the 27th instant. It had lain in a macerating tub since the day of exhumation. The soft parts were much in the same state as before described, excepting that some of the tissues at the base of the skull were somewhat more decomposed. The greater part of the scalp, and coverings of the face, had been removed in the church-yard; but what was left was completely saponaceous. The orbits presented no trace of eyes, they contained nothing but adipocire. There was no vestige of muscular aponeurosis in the temporal fossæ, and the pericranium was entirely gone. The sutures were easily recognised, but not less filled up than is usual at the age of the individual. The contents of the cranium were found to occupy not more than three-fifths of the cavity. The vacant space was in the back part. The dura-mater was in this situation, however, quite entire, and laterally also; but in the region corresponding to the anterior lobes, it was found wanting, and here the cerebral matter was semi-fluid and putrilaginous. On removing, with scissors, the remains of the dura-mater, it was noticed to be quite as resistant as usual, and was smooth and shining on its inner surface. The lining membrane of the lateral sinuses had a dark red tint. The brain thus exposed was in the form of a globular mass, distinguishable into hemispheres, but barely into lobes. The pia-mater was clearly recognisable, and was traversed by one or two bright red veins. Its texture was so tender that I could scarcely separate it from the mass which it invested; but in my attempts to do so, the tomenta cerebri were very perceptible. The appearance of the cerebral mass was not unlike that of Stilton cheese, and its consistence extremely soft; but a section demonstrated the white and gray matter with perfect distinctness. The consistence prevented me from making any observation on the other parts. The tentorium cerebelli was quite firm, but beneath it was a pulsatous mass, in which it was vain to search for layers of cerebellum, tuber annulare, or any other nervous organ belonging to this region.

In separating the atlas from the occipital condyles, I found great resistance from the surrounding ligaments."

After offering some interesting observations on the singular state of preservation of the body, and the causes which may have contributed to this, with some comments on the appearances of the alimentary canal, Dr. Symonds proceeds to the consideration of the medico-legal inquiries arising out of the above investigation.

The first was "whether any thing had been found to indicate the causes of

death?" Dr. S. thinks "that the pathological appearances afforded nothing but negative evidence, and that the discovery of the poisonous substance itself was by far the most important fact, with reference to the judicial question. The only question in this stage of the enquiry, was, how far the presence of this substance might be presumed to have been the cause of dissolution. Was it sufficient, *per se*, in the absence of proof of any other deleterious agent, to account for death? Had it been introduced during the life of the individual? The answer to the latter question could not but be affirmative, as the parietes of the trunk were entire; or if it were possible to conjecture that any one might have been ingenious and diabolical enough to have injected the arsenic by an elastic tube, passed along the mouth and gullet into the stomach, in order, at so remote a time, to support an imputation of poisoning, we still should find it difficult to explain how the matter could have reached the jejunum. The deleterious properties of the substance being admitted, was the quantity sufficient to occasion death? Had it been necessary to have answered this question, with reference to the quantity of arsenic which Mr. Herapath actually produced, the reply would have been all but affirmative. The substance was orpiment; supposing its base to have been arsenious acid, which was converted into a sulphuret, by the action of sulphureted hydrogen in the body, in accordance with actual observations of this kind by Christison, the discovery of five grains was nearly conclusive; or supposing that it had been given in the form of orpiment, as sold in the shops, the answer would have been the same, since the latter preparation contains more than nine-tenths of arsenious acid. But there was no necessity for limiting the question to so small a quantity, because much was wasted in the tests, and in the liquids employed in the ablution of the parts, while a considerable quantity remained incorporated with the tissues. It was thought probable by many, as well as by myself, that there must have been as much as a drachm altogether in the stomach and the intestines. When pressed in my examination to state what I believed to have been the smallest quantity, I said that I felt persuaded that there could not have been *less* than half a drachm. The substance and the quantity, then, being adequate to a fatal effect, did it actually produce this result? In the absence of any proof whatever, that any other fatal cause was in operation, there could be but one answer to this question. Nor do I think that the case would have been different, even had we discovered the traces of organic disease in some vital organ; since the experience of every practitioner must have taught him, that the fatal results of such lesions have no determinate time, while the period of action for a poison is far more definite, and consequently, where both are discovered, it is reasonable to ascribe death to the latter, though there is a remote possibility that the effect of the former might have accidentally taken place before the poison had had time to complete its work. But there is scarcely any, even the most acknowledged mortal agent, which is not liable to the exception of such a possibility. On finding the appearances of intense enteritis, the inference that this disease was the cause of death might be questioned, if nothing was known of the history during life, on the possibility that some sudden external cause, such as a concussion, or a stroke of lightning, might have cut off the patient. Such refinements are, however, insufficient to divert the belief from the more obvious conclusion; the highest degree of probability in such cases must amount practically to absolute certainty.

That arsenic, then, had occasioned the death of the deceased, was the opinion formed by the medical witnesses upon the results of their examination of the body. How far we were supported by the account of the occurrences during the last hours of the individual's life, will appear, in part, from the following abstract of the evidence of two persons who attended upon the deceased, and partly from the confession of the culprit, made after her condemnation. Mary Ann Allen, the principal witness for the prosecution, stated, among many other circumstances, the greater part of which belonged to the proof of administration on the part of Mrs. Burdock, and which, therefore, need not be inserted here,—that she saw the deceased, for the first time, on the evening (Thursday) before her death; that she was warned by Mrs. B. never "to eat any thing after Mrs. Smith:" that the deceased was in weak health, and kept her bed, but was not very ill;* that on the following morning, the deceased expressed herself as being much better, and

*At the coroner's inquest, this witness deposed that the deceased laboured under diarrhœa, and that the evacuations were very dark-coloured.

hoped to go down to her parlour on the ensuing Sunday; that the deceased attributed her indisposition to a cold taken by walking out on a windy day; and that nothing remarkable happened till the evening, when Mrs. Smith appeared more poorly than previously, and declined taking some gruel, because her mouth was sore. In the course of the evening some gruel was administered, witness having previously seen a yellow powder mixed with it in another room, which powder she was told was medicinal: but she stated that, before this addition, the gruel had a reddish colour. About half the quantity in the basin was drunk, and shortly afterwards Mrs. Smith appeared in great pain, "rolling about the bed in great agony;" she did not vomit, but spat a bloody matter: after a time she became quiet, and seemed asleep. No other symptoms were mentioned by this witness, except that, after the interval of quiet, the deceased raised her head convulsively, struck it against the head-board and expired. Witness had no means of computing time, but supposed that about two hours had elapsed between the taking of the gruel and the death. There is reason, however, to believe that, upon this point she was mistaken, and that the time was much longer. Another girl, Charlotte Thomas, who had been employed in a similar capacity to that of Allen, for nine days previously to the engagement of the latter, and who was the principal witness for the defence, declared that the deceased had a very sore mouth;* was in the habit of using a gargle, and spat a great deal of blood. This witness left Mrs. Smith in consequence of her own health being seriously deranged; and it is deserving of notice, that among her ailments was a sore mouth.

I need scarcely remark, that very little exactness could be expected in the detail of symptoms observed, fourteen months previously, by Allen, a person not more than fourteen years of age at the time, and unaccustomed to wait upon the sick. I heard her deliver her evidence both at the inquest and the trial, and gathered from it that Mrs. Smith, previously to taking the gruel, as she called it, (because it had been so designated by the culprit) was very unwell, but became much worse soon after. Supposing her account of the time to have been correct, and that the arsenic had been administered for the first time in the liquid mentioned, the fatal event must have taken place sooner than in any case actually upon record. Dr. Christison mentions three hours, as the shortest period that he has met with; but he alludes to a case tried at Warwick, mentioned by Mr. Evans, of Lewes, in which death was said to have occurred in two hours. In the present instance, as I have already intimated, there was reason to think that the time had been miscalculated; but even if double the period had elapsed, it was extremely brief, and the case must have been classed among those in which death is brought about by the remote action of the arsenic upon the contractility of the heart. The absence of vomiting would tend to corroborate this opinion, and, perhaps, also, the want of any signs of irritation in the *post-mortem* appearances. It was, however, quite open to conjecture, that a dose of the poison might have been given previously; and my professional brethren, and myself, were strongly inclined to this opinion; though, if evidence had been brought to shew that this could not have been the case, it would not have altered our conviction respecting the cause of death; for, without adverting to the fact that there is an individuality in every case, which may render it an exception to all general rules, there was nothing unreasonable in believing that an irritant poison would operate more rapidly upon a person already enfeebled, especially when it was known that the dose was considerable. In the defence, no attempt was made by the prisoner's counsel to elicit any doubt upon this subject.

The account given of the previous condition of the deceased, very naturally suggested the idea that she had been under the influence of mercury, and it was not uncharitable to conjecture that the individual who had administered the arsenic, had previously made an attempt with corrosive sublimate. It was remarkable that the girl Thomas left with a sore mouth, and that Allen was particularly enjoined not to taste any thing after Mrs. Smith, an injunction which probably had either not been given to, or had not been followed by Thomas. The opinion upon this subject, formed by most of the professional men who heard the evidence, is further supported by a fact which I have received from credible authority, namely, that Mrs. Burdock had frequently purchased, at a chemist's shop, small quantities of corrosive sublimate, under the pretext of using it medicinally.

*At the inquest she spoke of "hoies" in the mouth and gums, and great swelling of the face.

The diarrhœa, testified by both the witnesses alluded to, adds weight to the suspicion; and not the less so, if the *post-mortem* appearances in the large intestines indicated chronic inflammation.

"After her conviction, Mrs. Burdock, in a somewhat scanty confession, or declaration, to a woman employed to attend her, stated that arsenic had been given to the deceased on the day before her death, and a larger quantity on the following evening, as the former dose appeared insufficient. The only discrepancy between her statement and that of Allen, was, that the liquid was thickened milk and not gruel. She made no remarks, that we have heard of, upon the symptoms of her victim. By this declaration, the peculiarity as to the shortness of time occupied in the action of the poison, is done away with; but it is somewhat remarkable that nothing should have appeared upon evidence tending to show that Mrs. Smith laboured under irritation from the effects of the first dose, (unless we admit that the diarrhœa was more recent than is intimated by other testimony,) or that she was worse than usual until the following evening. Some may, perhaps, conjecture that vomiting might have partially removed the substance, though there is no evidence of such an occurrence. I should be more disposed to think that there was a deficiency of observation, or of memory, upon the subject, which is quite conceivable with reference to so young an attendant as Allen, and perfectly compatible with the value of her testimony upon other facts, of which she was more capable of taking cognisance, and preserving the recollection.

"I shall now make one or two remarks upon the poison which was used in this case. It has been already stated, that the substance detected in the body was the yellow sulphuret; but it did not follow that this was the identical preparation that had been administered, because arsenious acid may be converted into the sulphuret in the dead body.* It appeared in evidence, however, that the substance purchased and used in the case was called yellow arsenic by the chemist who sold it. Having procured a specimen of this preparation, in order to try its activity upon animals, I found that it did not correspond in colour either to common orpiment, or to the spots in the stomach. It inclined more to red than yellow, and in this respect resembled realgar, but was still not so red as the latter compound. When mixed with gruel it gave a rich golden tint; with milk it inclined somewhat more to yellow; and with water the colour was a dull orange. It consisted of a fine powder, not easily miscible with liquid, and a great number of little grains and lumps. Some of the latter, when freed from the powder, were found to be orpiment, and others white arsenic. I subsequently examined the contents of the chemist's jar, and found in it several large lumps, some of which were cakes of orpiment, but most of them were of an irregular crystalline appearance, consisting of arsenious acid, streaked with yellow lines. I have not been able to ascertain the precise mode of manufacturing orpiment in this country at the present time. On the Continent it is made by subliming sulphur and arsenious acid together; and the analysis of the substance given by M. Guibourt, is ninety-four parts of arsenious acid to six of the sulphuret.† In Dr. Mead's time,‡ 'yellow arsenic was prepared by subliming white arsenic with the addition of a tenth part of sulphur. The red,' he adds, 'differs from the yellow only in this, that a greater quantity of sulphur is added, together with a particular kind of a red cobalt called kupfer nickel.' It is not probable that any important difference has been made, if any, from the above proportions. The druggist informed me that the substance in question was part of an old stock that he had taken from some other person in the trade; and I conjectured that it had probably been a sort of refuse left at the bottom of the alembic, after the sublimation of a certain quantity in a pure state, to be used as a pigment; and that this residuum had been broken up, and kept for coarse purposes, such, for instance, as that of poisoning vermin. Mr. Herapath analysed the preparation, and found it very variable, from the irregular intermixture of the grains of arsenious acid and orpiment. His general result was, that one hundred parts of the red powder contained seventy-nine of arsenious acid, and twenty-one of realgar. He found that a stream of sulphuretted hydrogen gave it a bright yellow colour.

"The comparative inertness of the native or pure sulphurets is only what might

* Dr. Christison was the first to point out this fact. In the "*Exhumations Juridiques*," (t. 1, p. 221) already cited more than once, there is a case in which yellow spots in the cardiac extremity of the stomach were observed, and grains of white arsenic in the ilium.

† *Dict. de Med. Pratiq. et de Chirurg. Art. Arsenic.*

‡ Mead on Poisons, p. 218. 1745.

be expected from their composition. When they act deleteriously, it is, probably, not till the metallic arsenic has derived oxygen from the organs or their contents, or from the liquid in which they may have been administered: we owe to M. Courdemanche the discovery of the important fact, that sulphuret of arsenic and water may, by the decomposition of the latter, yield arsenious acid and sulphuretted hydrogen.* With the yellow arsenic of commerce, M. Renault killed a small dog in five hours: the dose was four grains. A larger dog was killed in nine hours, with three grains. When applied to a wound, in quantities of a drachm, eighteen grains, and eight grains, it caused death in from fifteen to eighteen hours.† No precise experiments, that I am aware of, have been performed with *artificial* realgar. Orfila states, in general terms, that a few grains are fatal '*au bout d'un temps variable;*' and relates the following case, taken from the *Ephemer. Nat. Cur.*: '*Une femme mourut dans l'espace de quelques heures, après avoir éprouvé des tranchées violentes, pour avoir mangé des choux, au quels on avait mêlé une certaine quantité de cette substance.*' It is difficult to understand how it should be so active, if the analysis given by M. Guibourt, on the authority of M. Laugier, be correct, viz. that only 0.015 of its weight consist of arsenious acid."

MISCELLANEOUS.

69. *On the Climate of Madeira, and its true value to the Consumptive.*—By J. M. CALVERT, M. D. The situation of the island in the midst of a very large ocean, the latitude, the position of the town of Funchal, &c. all tend to produce great uniformity of temperature and great moisture, by the common principles of meteorology. The moisture is, of course, little seen in the town itself, being kept in such perfect solution by a uniform temperature, but it is generally visible, in the shape of a fog, on the side of the mountain above, whilst its existence is certain below, not merely from theoretical reasoning, but from the observations which have been frequently made there: particularly from the full and scientific tables of Dr. Mason. I avoid, however, all theoretical reasoning, both regarding the climate and also disease, at present: wishing merely to give a few practical hints as shortly as possible. I therefore only add that the feelings of all persons when they first go, both sick and healthy, those benefitted and those not, fully bear out the meteorological conclusions. Hence the climate is extremely useful to those patients who suffer from a dry irritable state of the mucous membranes, whether local or general; and in order to avoid a detail of symptoms, I may express them all under the *strictum* of the ancients: they are well detailed in Dr. Clark's work on Climate; and he recommends Devonshire, Guernsey, Jersey, &c. for them, and it is for these symptoms that I recommend Madeira; a winter here being, in many respects, a summer in those places. On the other hand, I am very anxious to express my strong conviction that, in the opposite class of symptoms, the *laxum* of the ancients, particularly if there are present symptoms of increased mucous and still more of purulent secretion, hæmoptysis, a tendency to relaxed, or what is called a slippery state of the bowels, if moist and emollient treatment have disagreed before, that in all these cases the climate will do harm in proportion to the good in the contrary: it will, indeed, often, in cases of general constitutional relaxation, do good at first, by removing some local irritation brought on by disease—as a dry cough produced by tubercles—but it will subsequently increase these by increasing the constitutional disorder which was connected with their formation. Such patients, therefore, must change their climate just as they would change their medicine, with change of symptoms.

All that Dr. Clark has said about the impropriety of sending patients in the advanced stage of disease is quite true; and I am only anxious to follow out his remarks by saying, that not only must the symptoms be slight, but they must also be of the peculiar character I have mentioned. The vague idea that Madeira has the finest climate in the world, and therefore is applicable to all cases of lung disease, is just as absurd as a similar notion about any valuable medicine; and the idea has hastened the death of many who might have long lived by means of a drier air, slight tonics, &c. It is important also to recollect that this drier air is not to be found in the island: the higher grounds are very generally covered with fogs in winter, and the few houses there are in summer occupied by the

* Orfila—*Leçons, de Med. Leg.* t. 3, p. 177.

† Orfila—*Toxicol. Gen.* t. 1, p. 450.

owners; besides that, the air does not become drier as we ascend, but only cooler; at least it remains equally near the point of saturation, which is a very important distinction. Hence the invalid must look to the town, and to it only, as his residence; and consequently eight out of ten must leave the island in summer, or their symptoms will be aggravated, as consumptive symptoms so often are in very hot weather, and as has happened to a friend of mine who remained in the island this summer. The town of Funchal (and it is the only one) was full last winter, and should the cholera send more persons there now, it is probable that great inconvenience will be felt by many. The voyage there, and still more the difficulty of getting home, is a much more serious thing to an invalid than those who have not shared in their sufferings imagine: many certain, and more contingent evils, both moral and physical, beset the patient from the moment he leaves home till he reaches it again; and these ought, as far as possible, to be explained to him. If tubercles, in however slight a degree, are known to exist, let him be told what is the utmost climate can do for him, or his distress will be very great, when, far from home, all the Utopian delusion connected with the word Madeira is torn from him. Here, however, I must strongly recommend the perusal of the first and second chapter of Dr. Clark's work, in which he insists on the care necessary in diet, clothing, medicine, &c. &c. for those who go abroad; the negligent way in which many patients are sent off, with no other advice but to give up all medicine, and trust to that ill-understood thing "climate," is, I know, the cause of irretrievable mischief. The patient very naturally persuades himself that climate will compensate for every imprudence, instead of being, at best, but the most favourable opportunity for care and good treatment. A winter in Madeira is, to all practical purposes, but a summer in Devonshire or Jersey; whilst there are many peculiarities in it which make care in all the common habits of life still more necessary. Recommending, as I do very strongly, Dr. Clark's work, to all who travel for health, he will, I hope, allow me to say that I think he has over-coloured Madeira, and I must suggest two hints to his readers: that Madeira is, with few exceptions, fit for a winter residence only, and that it does not combine the advantages of two kinds of climate, but must strictly be classed with the warm and moist; as Pau, Devonshire, &c.

I have intentionally dwelt more on the evils than good of Madeira, in this short letter; my object being to prevent those who were going to the dry bracing air of Nice, &c. from ignorantly turning round with the idea of finding it at Madeira; this being, in fact, just the contrary. My difficulty in writing has been not to dilate, and I would gladly at this moment state the advantages of the island: this I may probably hereafter do, in conjunction with one or two friends; whilst I must for the present be content to say that the good, in well-selected cases, is proportionate to the evil in the contrary, and to shew that I am impartial, I may add that it is not improbable I may, before the winter is over, go back to the island myself.—*London Med. Gaz.*, 24 Oct., 1835.

70. *Medical Instruction in Paris.*—M. Guizot, the minister of public instruction in France, in his report to the king relative to the creation of a chair of pathological anatomy in the Medical School of Paris, states, "that instruction in the Faculty of Medicine of Paris, though enlarged by the successive creation of different chairs, is still, in some respects, not on a level with the existing state of medical science." Louis Philippe seems to have coincided in this sentiment, for he has issued an ordinance for the creation of a new chair, to be supported by the legacy of M. Dupuytren. Nevertheless the faculty of medicine of Paris, prior to this ordinance, comprised sixteen chairs, with twenty-three professors, and thirty-six aggregées. In this country, so far as we know, there is no medical school in which there are more than seven chairs; and some have only three! Is it because medical science is at a lower ebb here than in France, or because our schools are not on a level with the existing state of the science? We feel strongly tempted to dilate upon this subject, but are compelled, by want of space, to forego, at present, the indulgence of our inclination. We leave it, therefore, to the sages who regulate our medical institutions to inquire into the matter; but, as little satisfaction to the profession is to be expected from this source, we shall take an early opportunity of offering our own solution of the questions.

AMERICAN INTELLIGENCE.

Case of Carcinoma of the Tongue, successfully treated with the Ligature. By M. DONNELLAN, M. D., of Donaldsonville, La.—About the 1st of April, 1833, being then a resident of Jefferson Co., Mississippi, I was called to a plantation which I attended, in the adjoining county of Adams, to see some sick negroes. As I was about to return home, a negro woman, 25 years of age, very corpulent, and between seven and eight months advanced in utero-gestation, came to me, and requested I would look at her tongue. There was a small ulcer on the right side of it near the extremity, which I could but indistinctly see, as it was some time after sunset. I ordered some simple application.

Having no occasion to return, I did not see her again, nor indeed think of her, until the 23d, when I received a message to visit her, she having, as was stated, a very sore tongue. My surprise was by no means small to find that a considerable portion of the tongue had been removed, by the ulcerative process—that a large, ragged, ill-conditioned ulcer existed; which, both from its appearance and the history of the scirrhus that preceded it, now first communicated by the patient, left no doubt on my mind of its being of a cancerous nature.

The question, as to the propriety of operating or not, being soon answered in my mind in the affirmative, another question arose—ought the operation to be performed immediately, or postponed until after parturition? There was danger on either hand; and the risk of falling into one, in attempting to avoid the other. By an immediate operation, premature labour might be brought on; by waiting till after confinement, the patient's tongue would, in all likelihood, be destroyed, and her life jeopardized; so rapid was the progress of the disease. Of the two evils, premature labour appearing the lesser, (even if it should take place, which was doubtful,) I determined, (after a full statement of the case and its difficulties to her master, and his entire acquiescence with me in opinion,) to operate with the ligature, as first recommended and practised by Sir Everard Home.

A crooked needle, drawn to the middle of a strong ligature, was passed from below upwards, through the middle of the tongue, behind the ulcer; the ligature being cut, and the needle removed, there were then in the tongue two ligatures of equal length; one of which was tightly drawn and tied, on one side of the ulcer; and the other, in like manner, on the opposite; thereby cutting off the circulation from, and completely insulating, as it were, the diseased portion, which constituted a considerable segment of the right side and tip of the organ. The pain was very intense while tightening the ligatures; which done, I gave her 60 drops of laudanum, remained a short time, and left her comparatively easy. In a few hours, a copious salivation supervened, which continued till the dropping off of the affected part. Five days after the operation, on the 29th, deep sloughs were produced by the ligatures. On the 4th of May, finding the ligatures loose, I cut them out, and, without employing a needle, placed a single ligature, in the groove made by the others, around the affected part, which dropped off on the 6th. On the 11th, the vacuity was fast filling up with granulations, and, on the 23d, was perfectly cicatrized: the patient having given birth, some eight or ten days previously, to a fine healthy child. I have seen her several times since; her articulation is slightly impaired; but there was not, when I last saw her, the least vestige of disease remaining, and she enjoyed excellent health.

Donaldsonville, La., Dec. 11th, 1835.

Extraction of a Thimble from the Pterygoid Fossa. By ISAAC PARRISH, M. D.—J. B., of Wilmington, Del., came to Philadelphia, during the past summer, to obtain surgical aid for his child, a fine little girl, about four years of age.

A few days before he left home, the mother of the child, in attempting to extract a small brass thimble from her mouth, which she was about to swallow, accidentally thrust it up toward the base of the cranium. The thimble, being of

small size, lodged in the zygomatic fossa, just above the outer attachment of the left lateral half arch to the bone.

The upper and rounded extremity of the thimble was closely impacted in the superior portion of the fossa, presenting towards the base of the cranium, while the open end presented obliquely towards the pharynx. It is evident, that thus situated, the passage of air through the nose and mouth would be very slightly obstructed.

Numerous attempts had been made to dislodge it by instruments introduced through the nose, all of which failed. The patient was now submitted to my father, who, being particularly occupied at the time, referred her to my care.

In connexion with my friend, Dr. Ashmead, a careful examination of the case was made. Some tumefaction was observable about the nose, which we supposed had originated from the frequent introduction of instruments.

On introducing a pair of small curved forceps, and pushing them back toward the pharynx, a grating sensation could be distinctly observed, as the instrument touched the projecting part of the thimble; but we were unable to decide what part was touched, or what was its peculiar situation.

An attempt was now made to pass the finger behind and above the soft palate, in order, if possible, to ascertain more positively the state of the case. The mouth of the little patient being forced open, pieces of soft wood were inserted between the teeth, and I succeeded, with some difficulty, in carrying my finger to the desired point. The thimble was felt, occupying the position above described. Dr. Ashmead also examined and satisfied himself upon this point.

It was now evident that any attempts to dislodge it, by instruments passed through the nostril, must be abortive; inasmuch as the body of the thimble was closely fitted into a cavity, forming, as it were, a lateral boundary to the posterior nares, and a small portion of its edge only presented to this cavity. An instrument introduced in front could only be made to glide upon this edge, which did not project sufficiently to allow of the application of force.

The difficulty of effecting our object, by instruments passed through the mouth, was very considerable, owing to the great curvature required to reach the zygomatic fossa from behind, and to the resistance of the child, from the necessary obstruction which our efforts would create to the act of respiration.

Instruments of various sizes and curvatures were introduced through the mouth, but with all our efforts we could only touch the projecting edge, without being able to secure it in such a manner as to dislodge the body.

These attempts were repeated for several successive days, until at last the little patient became so irritable that we had almost despaired of relieving her without a resort to some serious operation. As the introduction of the finger could be effected, I determined to make another effort to introduce it, with a hope that some impression might be made in this way. With the assistance of Dr. Morison (Dr. Ashmead being unwell) the index finger was carried back into the pharynx, and then curved and brought forward above the soft palate, until the thimble could be felt: the top of the finger was then pushed, by a rotatory movement, into its open end, and, by a similar movement, it was dislodged from its position. The finger was now withdrawn, with the thimble firmly fixed upon its tip, to the great joy of all parties concerned.

The patient suffered very much during the frequent operations to which she had been subjected, and some fever followed. This was subdued by rest and appropriate treatment, and in a few days she was taken home to her friends.

On the Distribution of the splenic vein in the spleen of the Ox and Sheep. By A. L. WARNER, M. D., Professor of Anatomy and Surgery in the University of Virginia.—For five years I have been accustomed to display to my class a peculiar arrangement in the spleen of the ox and sheep; of which, with the exception hereafter mentioned, I am not aware that any description has been given; but, being unwilling to hazard an announcement which might, upon farther examination, prove to be premature, I have preferred to defer a description of it until repeated examinations have satisfied me that this peculiarity of the splenic nervous system is uniformly found in these animals. As yet I have not been able to trace the same arrangement in any other animal; and, as far as my investigations upon that organ in man extend, I have been unable to discover any analogy.

Through the politeness of my friend Dr. Goddard, of Philadelphia, I have recently had an opportunity of examining the spleen of the rhinoceros, which, although not unlike that of the ox in its general outline, does not present the same peculiarity in its venous circulation.

The spleen of the herbivorous differs essentially in form from that of the omnivorous animals, being elongated and flattened, with its blood vessels entering and passing out, as single trunks from a point near its upper extremity. Upon slitting open the vein, it will be found, almost immediately after entering the spleen, to lose its distinctness as a vessel, and consist of canals furrowed out through its substance. The principal canal traverses the gland obliquely from the point at which the vein enters to its inferior extremity; but instead of its being defined by the fibrous coat of the vein as an entire cylinder, it will be found that its walls are irregular shreds of the venous coat, and the coagulated or granular substance of the spleen. At its upper extremity we find the coats of the vein pierced by a great number of foramina of various diameters; some, in a well developed spleen, of an inch in diameter, and from this gradually diminishing to the size of a millet seed. These foramina are recognised upon opening the vein by small coagula projecting within the cavity of the canal, which, upon examination, proves to be the peculiar substance of the gland. By scraping the inner surface of the vein with the handle of a scalpel, we remove these coagula, and display the cribriform character of the venous trunk, and also discover that no vestige of a vessel is connected with it at these foramina. We find the foramina more thickly distributed near the entrance of the vein, and diminish in number as we advance along the canal. From the great number of these foramina, the integrity of the venous coat is materially assailed, and it very soon is reduced to a strip of fibrous membrane, coursing along the external wall of the canal, having immediately upon its outer side the splenic artery and two cords, of whose character I am not entirely satisfied, but from their appearance should presume them to be nerves: I have not been able to inject them after repeated attempts. About the centre of the spleen the coats of the vein disappear, with the exception of the strip before mentioned, and a few isolated shreds placed at the mouths of lesser canals, opening into the main channel; which fibrous shreds establish a connexion between the fibrous layer over the artery and the reticulated structure described by Sir Everard Home and other anatomists; this connexion may be displayed very readily by scraping the outer wall of the canal with the handle of the scalpel, below the point where the vein disappears. Throughout the whole course of the central canal branches are detached laterally to every part of the organ, formed in the same manner as the central canal in the apparent substance of the spleen. In each of these lateral canals we trace a branch of the splenic artery and its accompanying nerves.

From the above facts it is evident that there is no venous distribution as distinct vessels in the substance of the spleen of the animals in question; and also that the blood conveyed to this organ by the splenic artery is extravasated in its substance, and entirely thrown out of the current of circulation. It is then returned to the venous canals, or passed through the cribriform venous coat, and thus brought into the commencement of the portal vein, and again thrown into the vortex of circulation. In these facts we find a conclusive argument against the heart being the sole agent in circulating the blood, for there is no direct continuity existing between the arterial extremity and the venous system.

We cannot refrain from propounding an interesting query, based upon the above anatomical facts. By what power is the blood circulated along the portal vein, and distributed throughout its infinitely ramified extremities in the substance of the liver?

The mode of displaying the peculiarities of the splenic vein is extremely simple, and consists in slitting open the vein on the concave side of the organ, from the point at which it enters, near its upper extremity, tracing it obliquely to the opposite extremity. The foramina will be distinguished by the small coagula projecting into the vein, and may be farther displayed by scraping away the coagula with the handle of the scalpel: the ragged border of the remnant of the vein, with its connexions, may be exposed by the same process.

The only allusion to the above facts, with which I am acquainted, is found in the third volume of "Home's Lectures on Comparative Anatomy," p. 148, and is confined entirely to the existence of the foramina in the coats of the vein; while

at the same time he admits the existence of a perfect venous corresponding with the arterial circulation. It is evident that Sir Everard Home draws his inference of a venous circulation from the human spleen, which differs essentially in this particular from the ox and sheep, although, from my examination of the human spleen, I am not able to confirm his remark in relation to the existence of foramina in the coats of the veins of that organ. The following quotation embraces all that relates to the foramina, and shows conclusively that he was ignorant of the venous distribution described above.

"The spleen of a woman, who had taken little or no food for several days, hardly more than one third the size of the other, was cut into transverse sections, but did not exhibit any appearance of cells; by the same mode of treatment it was gradually reduced to a tissue of blood-vessels." "From these experiments, the spleen, when empty, consists of arteries and veins; and these having no cellular membrane in their interstices, the space is filled up by coloured serum."

"The venal trunks in the concave part of the spleen, when slit open, are found to have lateral orifices, through which their contents pass out when the arterial trunks are sufficiently distended to compress the venal ones in the theca, as they pass out to join the splenic vein."—*Home's Lectures on Comparative Anatomy.*

Notice of the two new modifications of wooden blocks for the radical Cure of Hernia. By R. COATES, M. D.—At the close of the report of the committee of the Philadelphia Medical Society, published in the original department of the present number of this Journal, the chairman of the committee made a few remarks upon two new modifications in the form of the wooden blocks for trusses, contrived by Mr. Chase, to meet the objections made by the committee against those blocks which had been previously employed in ventro-inguinal or direct inguinal hernia, and in femoral hernia. The first of these, which may be denominated Chase's ventro-inguinal block, resembles the common inguinal block, strongly compressed upon its broader convexity, until the more sudden curvature is made to overhang the base to a great extent, particularly in the middle of the length of the block, so that when the block is placed on its base and viewed perpendicularly, it presents on one margin a semi-elliptical curvature, and on the other an effuse parabola. This form permits the effective pressure of the block to act very near the brim of the pelvis, without injuring the spermatic cord, or contusing the integuments against the bone; and it would appear difficult to contrive a form of pad better fitted to secure the retention of the bowel in this very troublesome variety of hernia. The block for femoral hernia cannot be correctly described in words. It is superior in principle to the femoral block of Mr. Chase, noticed in the report,—its greatest elevation being at the upper extremity, where it is intended to produce pressure beneath the margin of Poupart's ligament. The effects of these modifications have not yet been subjected to any practical test, in the presence of members of the committee.

Case of Myelitis, &c. By SAMUEL WEBBER, M. D., of Charlestown, N. H.—Some time in November, 1831, I was requested to see John Hassam, a lad of about 12 years of age, of rather delicate constitution. The complaint I found to be of severe pain in his left side, chiefly situated in the fleshy interval between the short ribs and the crest of the ilium, but extending at times over the extremities of the short ribs and towards the loins. This pain was said not to be felt generally, except at night, when it attacked the patient soon after going to rest, and frequently induced him to leave the bed and to come down stairs, where he would pass several hours of extreme agitation and restlessness, keeping in almost constant motion, on account of the severity of suffering. An hour or two after midnight the pain would abate, and the patient return to his bed, where he would soon drop asleep, and in the morning would feel tolerably well and able to be about. Simple domestic remedies, for the most part local applications, such as frictions with camphorated spirits and the like, had been tried, without any thing more than temporary relief during the time of the application.

I found the boy's pulse moderate, and for aught that I then perceived, natural; his appetite was said to be rather less good than formerly, and the bowels somewhat disposed to be costive. The tongue had a slight coating of whitish brown fur. Examination of the side presented no unusual appearance, either to the

eye or the touch. The boy was said to have caught cold about the time of first complaining, and it seemed likely enough to me, that in consequence of some strain of the muscles of the part, in some boyish play, an opportunity had been afforded to the cold to find a local habitation, and it had settled on the part in the form of intermittent rheumatic pain, or rheumatic neuralgia.

I gave him a dose of active cathartic pills, to be followed at night by a dose of Dover's powder, and directed the same to be repeated the next day. On the third day I again called to see him, and was assured that he felt quite well, having had no pain since my former visit, but two nights of quiet sleep. His pills had operated well, and his tongue looked tolerably clean. I left another dose or two of pills, to be given, if required, on the next day, and a dose or two of the Dover's powder. Calling again the next day but one, the same account was repeated, and perceiving nothing requiring farther action on my part, I took my leave, advising his parents to restrain him for a time from going out in damp and cold weather, and from engaging in any violent exercise.

About a fortnight after, I one day met the boy's father, who told me that for a night or two previous the boy had complained again in a similar way. In the interval, he said that he had appeared so well, that he had been sent to school, and, as the weather had some of the time been severe, he supposed that he had taken fresh cold. The father did not appear to think it of much consequence, but said that if I would give him a few more doses of the Dover's powder, he would take them. I accordingly gave them, and did not hear again from the patient till some time in the beginning of January, when I was again called to him. I found that the nocturnal pain had again for several nights been very severe, and the Dover's powder had failed to give relief. The boy's countenance looked less healthy; his tongue was coated, and there appeared to be some constraint in his movements. After listening to the accounts given of the patient, I requested to examine the spine, thinking, from appearances, that there must be the seat of the disorder. Every vertebra from the neck to the sacrum was then carefully pressed upon, but no tenderness was discovered, nor was any uneasiness manifested by pressure upon or under the ribs, or, in fact, in any direction. Under these circumstances I could not make it out to be any thing more than neuralgic pain, though I still thought the origin was in the spine. The cathartic pills were again used, with doses of colchicum, three times a day, and a rubefacient plaister applied to the side and back. The tongue became cleaner and the pains less severe in a few days, and then carbonate of iron was substituted for the colchicum, and an aloetic pill used to regulate the bowels, with some anodyne—either Dover's powder, a small dose of morphia, at night, if necessary, to procure rest. This course had been pursued for two or three days, without material change, when Dr. Twitchell, happening to be in town, saw him with me. The Doctor advised the removal of the plaister, and the rubbing of the spinal region with some strong anodyne liniment—a good decided dose of the morphia at night. These means were accordingly employed the same day and night. The patient rested well, but in the morning was found to have entirely lost the use of the lower extremities, and in a day or two it was discovered that the rectum and bladder had also become, in a great degree, paralyzed: so that it was necessary to employ the catheter and syringe, in order to procure the natural evacuations. The anodyne liniment was then relinquished, and the spine was rubbed with antimonial ointment. About the third day from this change, I was again favoured by the advice of Dr. Twitchell. It was then resolved to use strip blistering on each side of the spine, stimulating frictions to the limbs, and a solution of muriate of mercury, in conjunction with cathartics of a somewhat stimulating quality, till the tongue, which had again become coated, should be cleaner, when strychnine should be employed. Upon examining the spine at this time, a tumour, or swelling, of considerable extent, but not of much height, was observed on the left side behind the lower angle of the shoulder-blade and contiguous to the spine, which, at that place, seemed slightly curved, projecting on that side. This swelling had a firm feeling, and it seemed doubtful whether it was the result of morbid growth, or merely a projection of the heads of the ribs and the muscular covering over them.

The course of treatment above specified was diligently pursued. The bowels so far improved as to be moved by moderate doses of cathartic medicine, without

the aid of injections; the tongue became cleaner, and the appetite improved. Still there was some pain in the back, and the limbs remained motionless and much impaired in feeling. The strychnine was then used, at first in solution and afterwards in pills, and continued and increased till spasmodic movements became frequent upon any light irritation of the limbs, while the sensibility to such irritation and to touch was much improved. At this time, however, new symptoms began to develop themselves, increased frequency of the circulation, laboured action of the heart, cough frequent and teasing, quickened respiration, and some increase of pain. The cough was for a time almost wholly removed by pills of ipecac. and opium, taken at night, and a large caustic issue near the spine and opposite to the tumour above described, wholly removed the pain, while the laboured action of the heart appeared somewhat mitigated. The bowels, too, became almost naturally loose, and the stools appeared well digested, but the patient had little control over the passage of them, and little feeling of it, and at the same time the retention of urine was changed into incontinence. As the strychnine, though in much increased doses, seemed to evince no farther power, it was discontinued, and tincture of flies was used, which, in some degree, corrected the incontinence of urine, though the power of voiding it at will never returned. Another caustic was applied on the opposite side of the spine below the tumour; but though it took effectual hold, no pain was produced by the application, nor did any apparent good result from it. After a little while the cough returned and soon became troublesome; the breathing also became shorter, and the action of the heart more violent; the nights were often restless—lying down became impossible, from the feeling of suffocation that accompanied it, so that the easy-chair, reclined a little more or less back, formed the constant station of the patient; and though the appetite, and generally speaking, the digestion, seemed little impaired, yet the bowels were often tympanitic and emaciation rapidly took place. During these latter changes, or about the beginning of them, I ascertained what I had before suspected, that the boy had met with some accident that might have led to his complaint. I found out that twice, in the course of eight months preceding his illness, he had been thrown or had fallen from a horse, striking upon the flat of his back, and once had a fall in the same way from the beams of a barn upon the plank floor, when, however, his fall was a little broken by some straw that fell at the same time. In all of these mishaps the spine must have been severely jarred, though no injury of immediately apparent bad consequences had been inflicted. My conclusion from these premises and the symptoms detailed were, that upon these severe and repeated jars the spinal marrow had taken on the low form of irritative inflammation that results in softening of its substance; that at the time of the paraplegiac manifestation the softening had decidedly taken place, and was now increasing, and that the organs of the chest and abdomen were suffering from the impaired state of the nervous energy in their functional performance, and probably in the lungs, from some organic change also, with, as I also thought, some effusion of water in the pericardium, and possibly some glandular enlargements in the mesentery.—The case seemed to me to be hopeless, and I so expressed my opinion to the boy's friends, while, at the same time, I endeavoured to meet and palliate the symptoms as much as possible.

In general these efforts were successful, though on the whole the obstruction of the breathing, the cough, the emaciation and frequency of pulse constantly increased, sloughs formed on the sacrum and nates, diarrhoea at last took place, rapidly reducing the patient's strength, and about the middle of March he died, after three months' confinement. During the latter part of the time he complained greatly of heat upon the skin, and there seemed to be upon it a scurfy eruption resembling some of the varieties of Lichen. Much complaint was also made of heat in the head.

Permission was freely granted for the examination of the body, though the time I had to devote to this purpose was very limited, and the examination was consequently but partial. In order to examine the spine I dissected off the muscles on each side of the spinous processes of those vertebræ of the back where the slight curvature before described was observed, with the swelling upon the convex side. As the body was extended upon its front this curvature was no longer perceptible, though the tumour remained. In turning back the flesh from

the transverse processes of the spine and the heads of the ribs, the knife penetrated into this swelling, and a purulent appearance was observed in the bottom of the cut. Pursuing the investigation by a deeper opening, the swelling was found to consist of a grayish mass formed by the degeneration of the muscular and cellular texture, in which all distinction of fibres was lost. At a little depth, say one-half or three-fourths of an inch from the surface, this mass was soft and purulent, without, however, any distinct cavity containing the pus. This seemed to be diffused through it, making a consistency somewhat like cheese, and I could push my finger in this substance down between the ribs. Having cleared the flesh from the back of the spine, by means of Hey's saw, the back of the medullary canal was divided on each side of the spinous processes, and these were raised for 4 or 5 inches, giving a complete view of the interior. The canal was nearly empty. The sheaths of the spinal marrow lay collapsed, or nearly so, on the under side of the tube, and upon being raised and cut across were found to contain only a small quantity of a fluid resembling moderately thick cream. At the point where the swelling approached nearest to the spine, the purulent degeneration of the muscular texture reached the vertebræ, and involved the intervertebral cartilage, while the opposed surfaces of the bones were blackened and carious, but not apparently softened. The examination of the spine was here closed, enough having been found fully to confirm the opinion expressed some weeks before the death of the patient.

Upon opening the thorax in front, the heart was found small, to the right of the median line, and with some, though not much serous effusion in the pericardium. Its veins were more than usually full. The right lung was collapsed and compressed into a very small space, while the left lung occupied fully two-thirds of the chest. It was universally adherent, its colour of a purplish gray, and upon cutting into it at various depths, it was found penetrated with purulent matter and softened without any defined cavity, resembling greatly the swelling on the back, with which it was continuous; the ribs, instead of separating the two, merely passed superficially on the back part through the diseased mass.

Other engagements, and some peculiar circumstances in the family, prevented me from pursuing my researches into the abdomen, where, indeed, I did not expect to meet any thing very peculiar or calculated to throw any new light upon the case, as, save the torpor of the bowels and bladder, their functions had not appeared materially disturbed, except in the occurrence of the diarrhœa, which might naturally be expected towards the close of life, with such a diseased state of the lungs, as it occurs in a similar manner in pulmonary consumption.

Charlestown, N. H., Nov. 6, 1835.

Profluvium Vaginale.—The following extract of a letter from Dr. ISAAC G. PORTER, of New London, to the Editor of this Journal, furnishing the subsequent history of the case of profluvium vaginale, of which an account is contained in our last No. p. 268, will be read with interest.

"Subsequent to the date of the communication in the Magazine, there was one more discharge of water from the vagina, preceded by a swelling in the right inferior portion of the abdomen, which was thereby diminished, although it did not entirely disappear. This discharge was preceded by great distress in the back and violent bearing down pains. Since the commencement of pregnancy, which must have taken place shortly after the last eruption of water, there has been none. Pregnancy in all respects regular, excepting perhaps that about a month since I was obliged to draw off the water by catheter two or three times. But this may have been in consequence of a fall she received a few days previous. Her health during pregnancy has been remarkably fine. There has been of late a very striking "right obliquity" of the uterus. Two days since she was confined; labour rapid and regular. From the disposition to secrete water hitherto manifested, I had rather calculated upon an increased quantity of the liquor amni. On rupturing the membranes, however, none, or at most a very small quantity escaped. The child was healthy. While using friction and pressure, to promote contraction of the uterus after the birth of the child, a very firm tumour was perceptible in the right inferior portion of the abdomen. Whether this was the contracted uterus, the right obliquity not being yet rectified, could not then be satisfactorily ascertained. The next morning, without any allusion

of mine, she complained of a constant pain in the seat of the old tumour in the right side. Besides this, she had after-pains.

What the nature of the "discharge" is, I have not yet settled satisfactorily to my own mind. On the authority of Dr. Gooch, dropsy of an ovarium does not prevent pregnancy. The patient is at present quite comfortable—the pain in the side being less than yesterday, and also the distension. Should any thing very interesting occur in future, I will inform you.

The other case to which I alluded is somewhat different. So far as I can learn, there has not been true dysmenorrhœa in either case, although in the one under present consideration the patient says she suffers much more than women in general during menstruation, which is often very profuse. In constitution she exhibits a well marked instance of the scrofulous diathesis. It is now six years since she experienced the first discharge, during which time she has had more than thirty (a rough calculation) different eruptions. That there is at present in her constitution a strong tendency to dropsy is very apparent, and, to my mind, if there be such a disease as hydrops uteri, this appears to me to be an instance. Her feet often swell, there are symptoms of hydrothorax, and the abdomen is enlarged, so as most closely to resemble in appearance pregnancy, and she being a widow it has caused very unpleasant suspicions. The distension, however, is always *extremely low*, and there is the sensation of great internal stricture. This induces severe pain in the back, and urgent propulsive efforts succeeding each other like labour pains, which, in intensity, they equal. She attempts, perhaps, to pass water, and, in this situation usually the eruption takes place, which she compares, from her own experience, to the bursting of the fœtal membranes. Immediately the distention diminishes: not, however, in all cases, entirely at once. She has had three of these discharges in a day, with great relief, but it soon gradually collects again, to be discharged once in about six weeks. During an illness last spring, she had three discharges in one day, and after that had none for six months. This she attributes to the medicine which she took—a portion of which was mercury. Much soreness always remains after the water has been thrown off, and while the distension exists, coughing causes great distress in the lower portion of the abdomen. Menstruation as she lays has at times relieved the distension."

New London, January 18th, 1836.

Professor Dewees.—This eminent practitioner and teacher, who has for several years filled the obstetric chair in the University of Pennsylvania, with the highest honour to himself and advantage to the school, has been compelled by ill-health to resign his professorship. He is at present in the Island of Cuba, in the hopes of benefitting his health by a winter's residence in a warm climate; and we are happy to state that recent letters from him afford the pleasing prospect of these hopes being realized.

Dr. H. L. Hodge, of this city, known as a lecturer on obstetrics in the Medical Institute, and to the readers of this Journal by several valuable contributions, has been appointed to the vacant chair, and we understand that he is delivering a very satisfactory course of lectures.

Practical Observations on Strangulated Hernia, and some of the diseases of the Urinary Organs. By JOSEPH PARRISH, M. D.—This is a volume of 330 pages, with 4 plates, recently issued by Messrs. Key & Biddle. The well known candour and long experience of Dr. Parrish claim for his observations a respectful consideration, and will no doubt secure for the work an extensive circulation. We shall notice it more particularly in our next.

Louis' Researches on the effects of Blood-letting in some inflammatory diseases, &c.—This interesting work of the celebrated author of the numerical system, translated by Dr. C. G. PUTNAM, with a still more interesting appendix by the venerable Prof. Jackson, of Boston, has been recently published by Hilliard, Gray & Co. We commend it to the attention of the profession.

Researches in Medicine and Medical Jurisprudence. By JOHN B. BECK, M. D., &c. &c.—This is a volume of 258 pages, and comprises the elaborate article on

Infanticide, contributed to the work on Medical Jurisprudence, by his brother, and four interesting Essays on other subjects; viz: on Acute Laryngitis; on the Non-contagiousness of Yellow Fever; on Onychia Maligna; and on Ulceration and Perforation of the Stomach. It should be in the library of every physician.

Hall on the Circulation of the Blood; and on the Morbid and Curative effects of the Loss of Blood.—These two works, respecting which we have already expressed a favourable opinion, have recently been published by Messrs. Carey & Hart, in a handsome volume, with ten finely executed plates.

Dr. Reynell Coates' Oration before the Philadelphia Medical Society.—This is an eloquent exposition of the defects in the present system of medical education in the United States. The Society have done well in putting it in print.

Rogee's Animal and Vegetable Physiology.—An edition of this valuable work, illustrated with nearly 500 wood cuts, has recently been issued by Messrs. Carey, Lea & Blanchard.

Berkshire Medical Institute.—The number of students in this institution, during the past term, was 100.

Dr. Dunglison's excellent Medical Dictionary is going to a second edition, and very much needed.—*Boston Med. & Surg. Journal.*

Necrology.—We have to record the loss which medical science has sustained in the demise of Dr. DAVID HOSACK, who died of apoplexy, on the 22nd December, 1835. Dr. Hosack occupied a large space in the medical history of our country. We hope some of our contributors will furnish us with a biographical sketch of the deceased.

Dr. SAMUEL BAKER, President of the Medico-Chirurgical Society of Baltimore, and formerly Professor of Materia Medica in the University of Maryland, expired on the 16th October, 1835, aged 50 years.

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